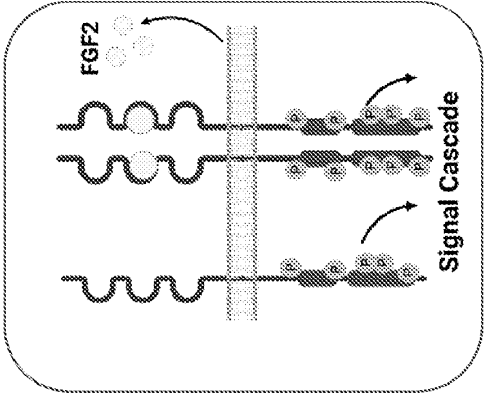
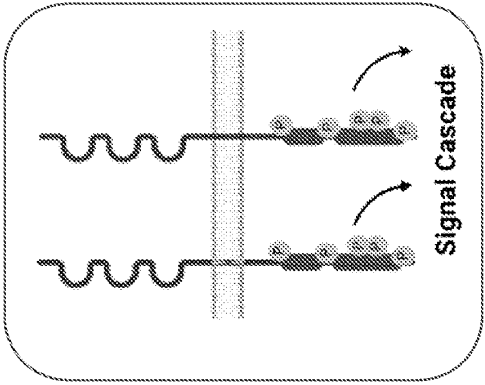


3. Overexpress both growth factor protein and downstream targets



2. Overexpress active downstream targets



1. Overexpress growth factors in cells

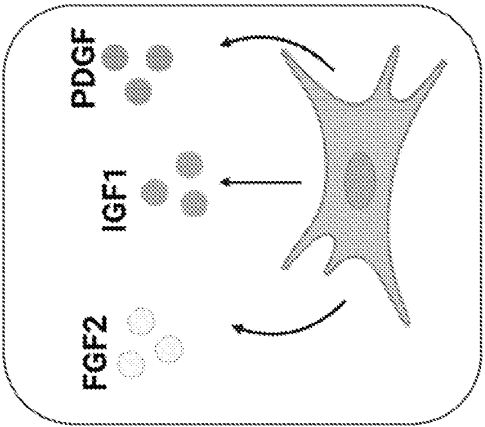
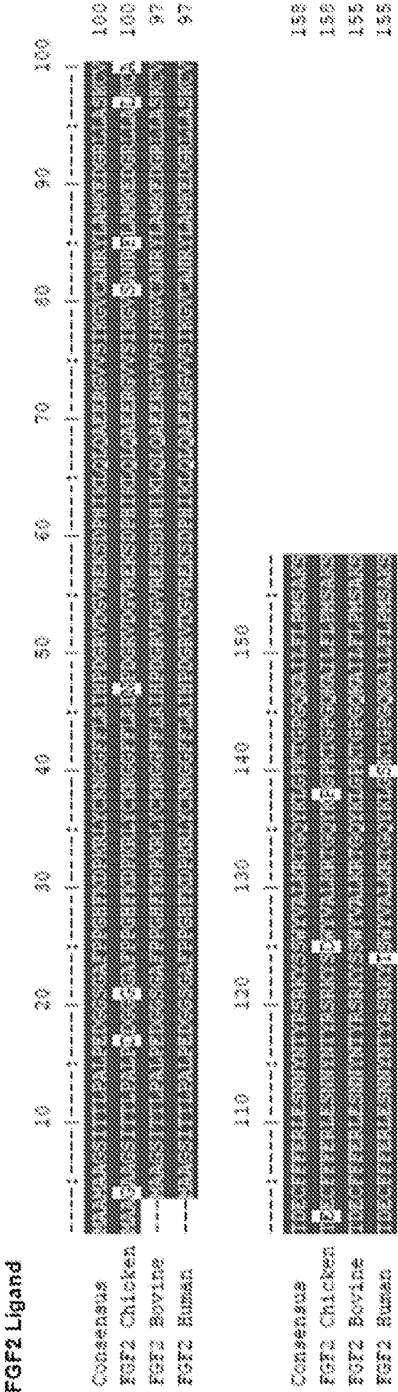
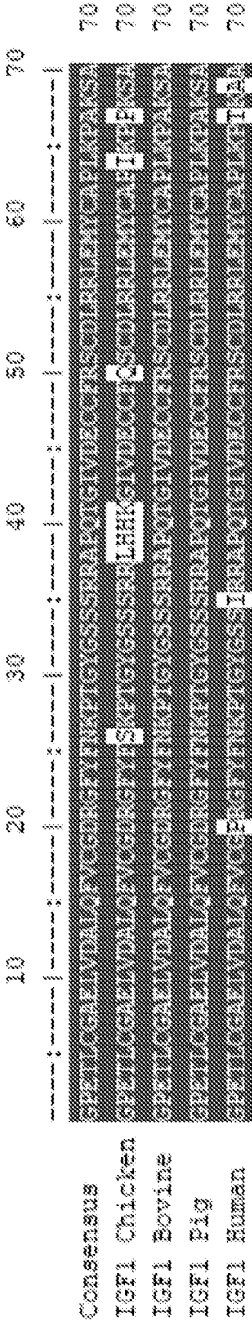


FIG. 1



Consensus (SEQ ID NO: 123)
FGF2 Chicken (SEQ ID NO: 1)
FGF2 Bovine (SEQ ID NO: 83)
FGF2 Human (SEQ ID NO: 124)

FIG. 2A



Consensus (SEQ ID NO: 125)
IGF1 Chicken (SEQ ID NO: 17)
IGF1 Bovine (SEQ ID NO: 126)
IGF1 Pig (SEQ ID NO: 127)
IGF1 Human (SEQ ID NO: 128)

FIG. 2B

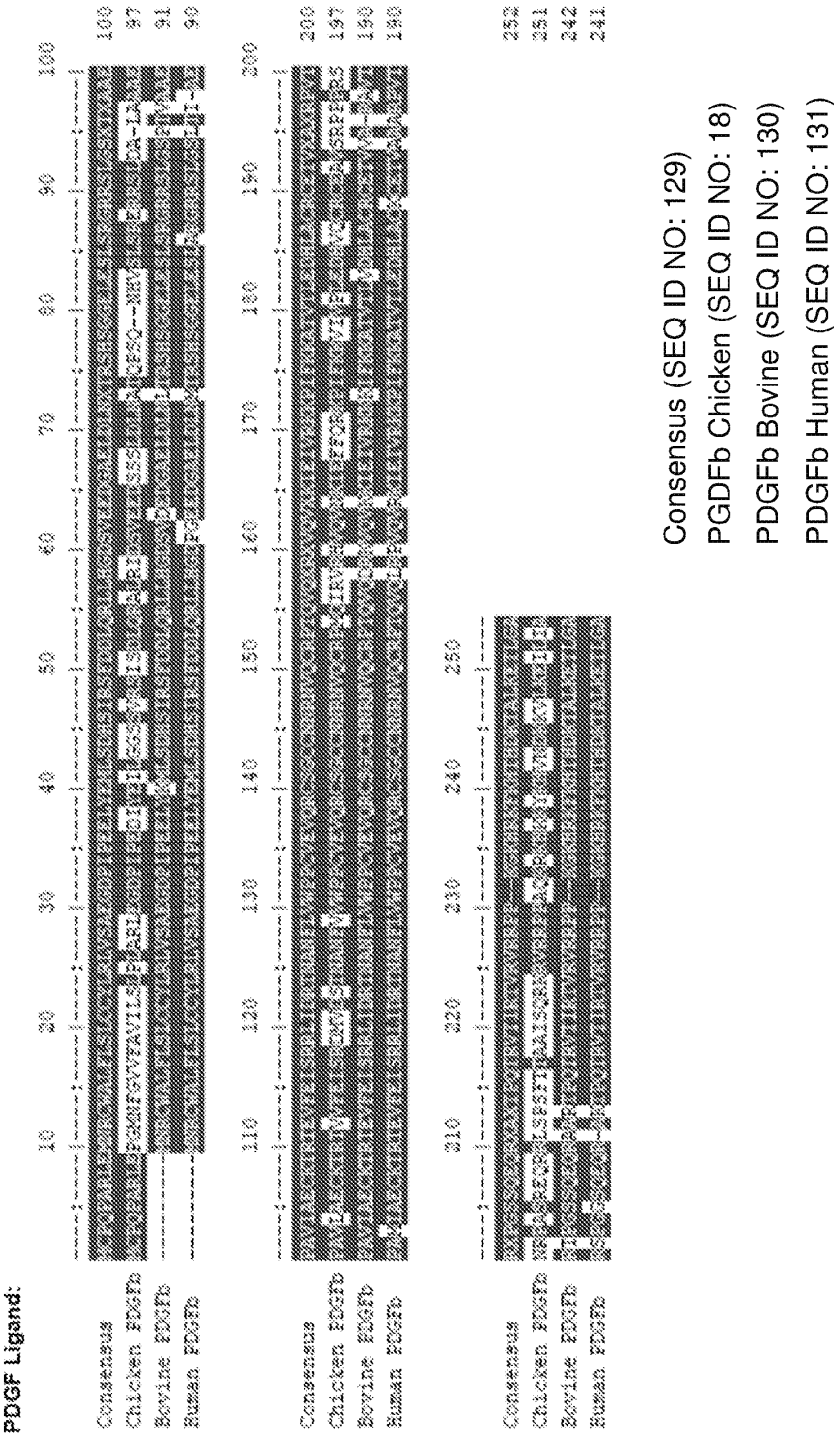
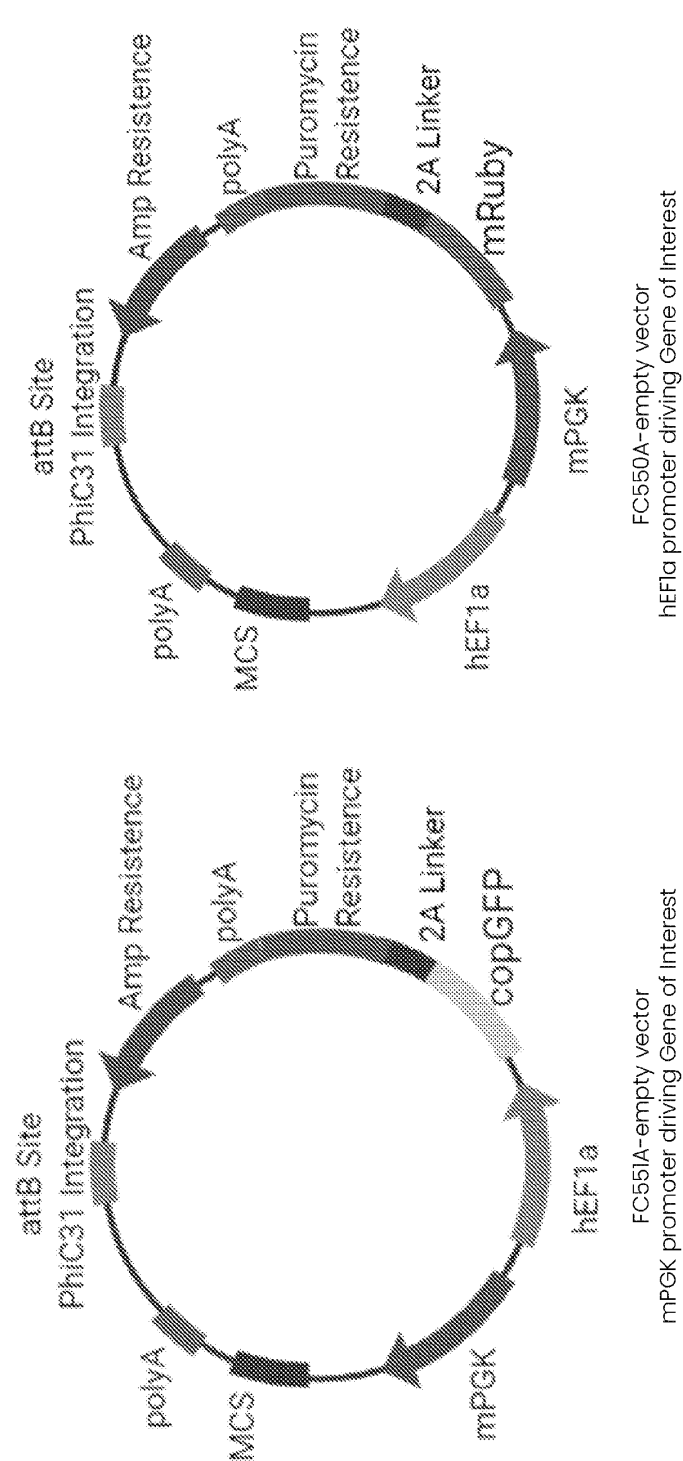


FIG. 2C



Fold change in promoter strength

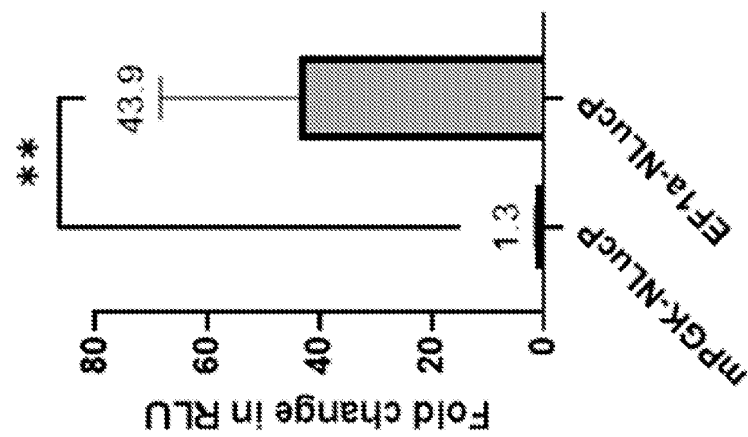


FIG. 4

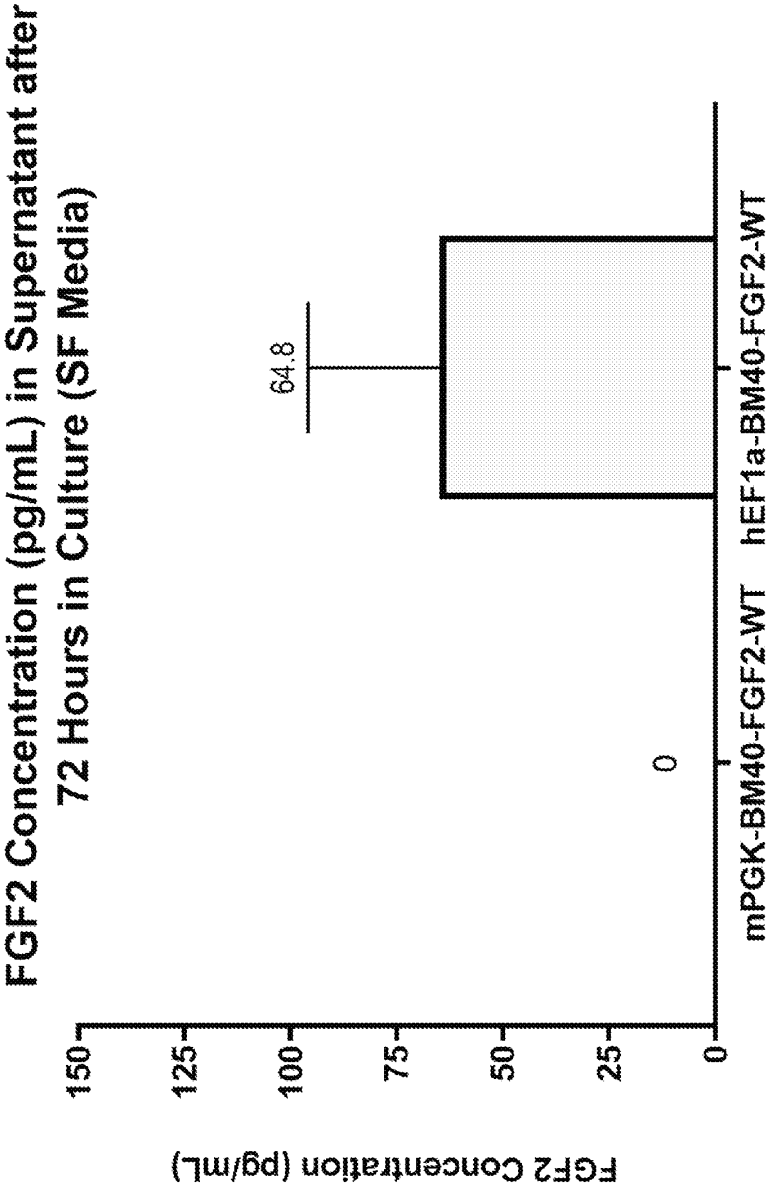


FIG. 5

FGF2 Concentration (pg/mL) Detected in Culture Media After 72 Hours

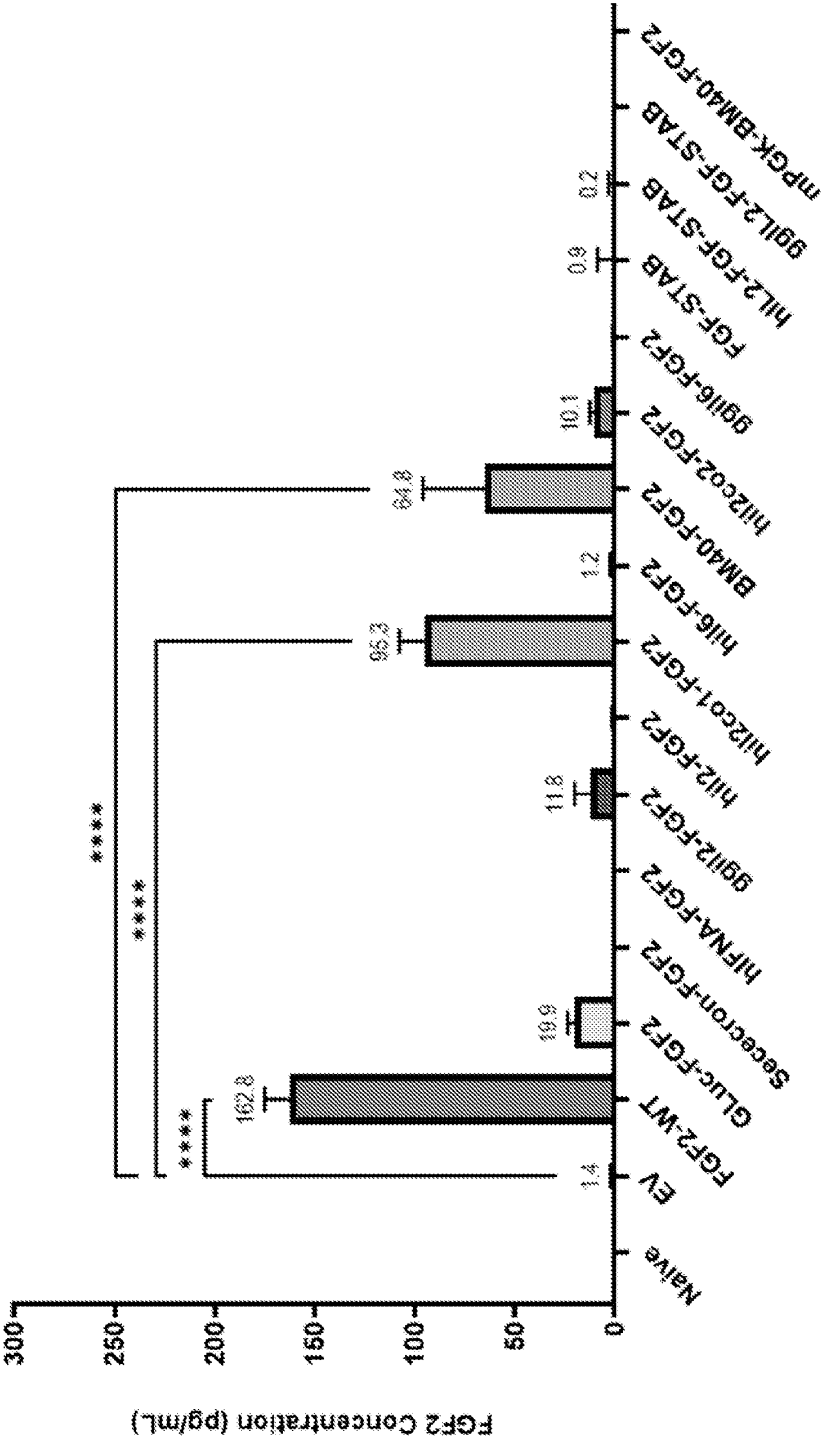


FIG. 6

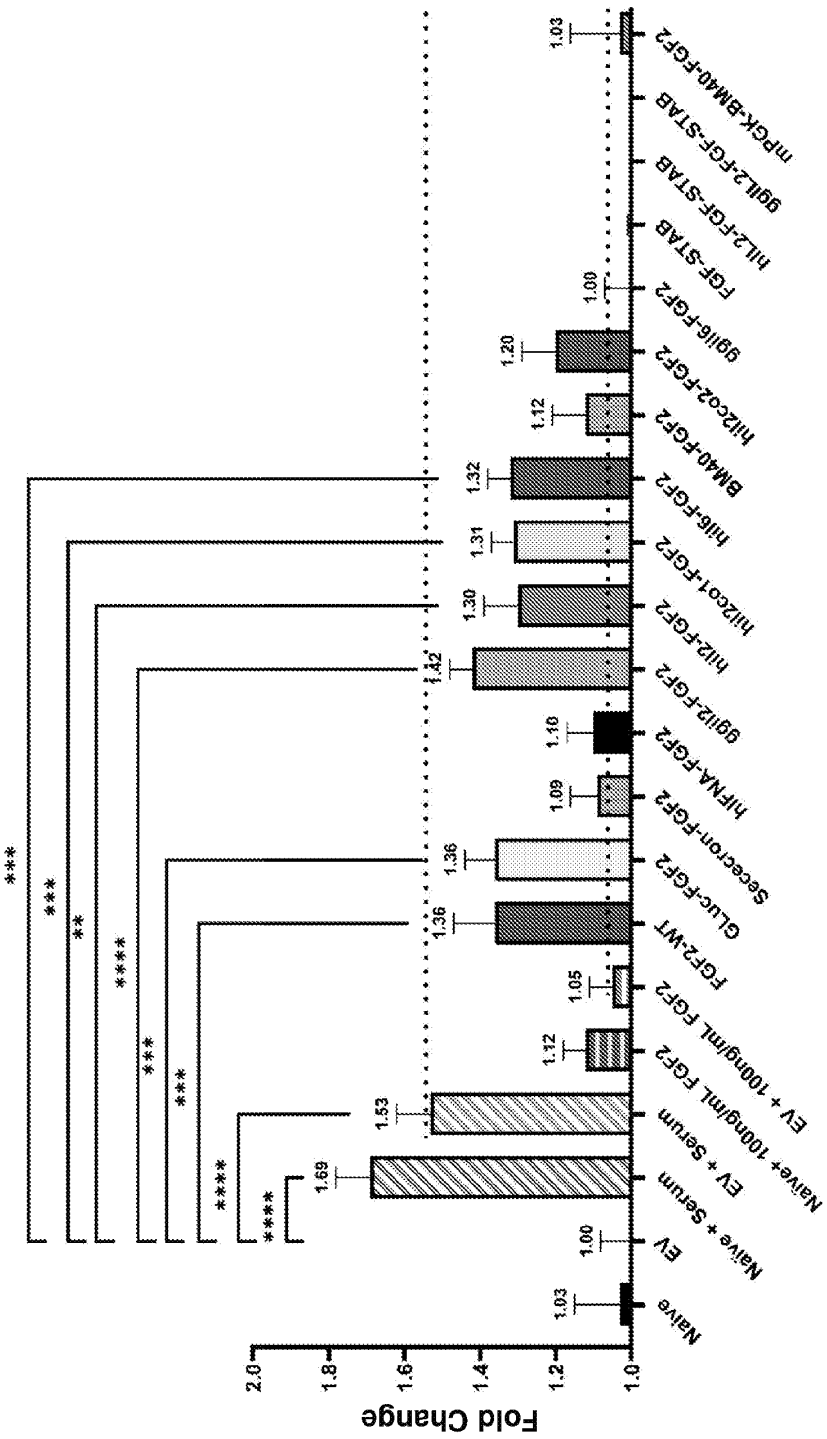


FIG. 7

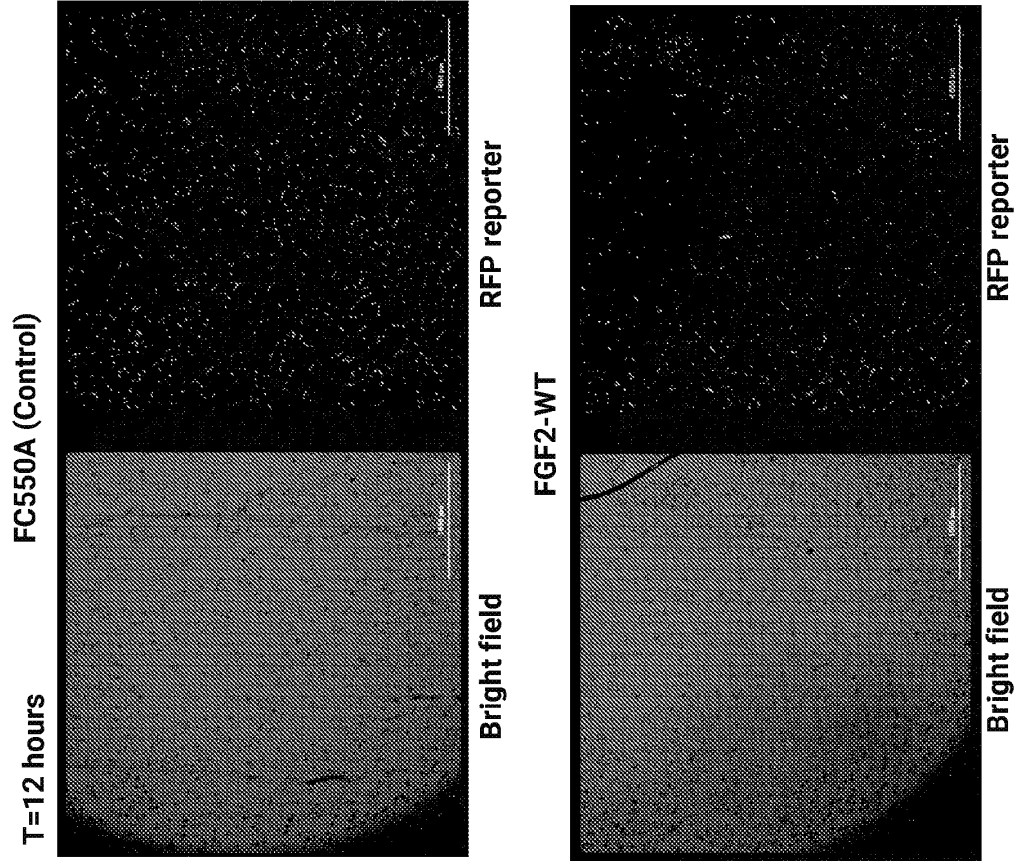
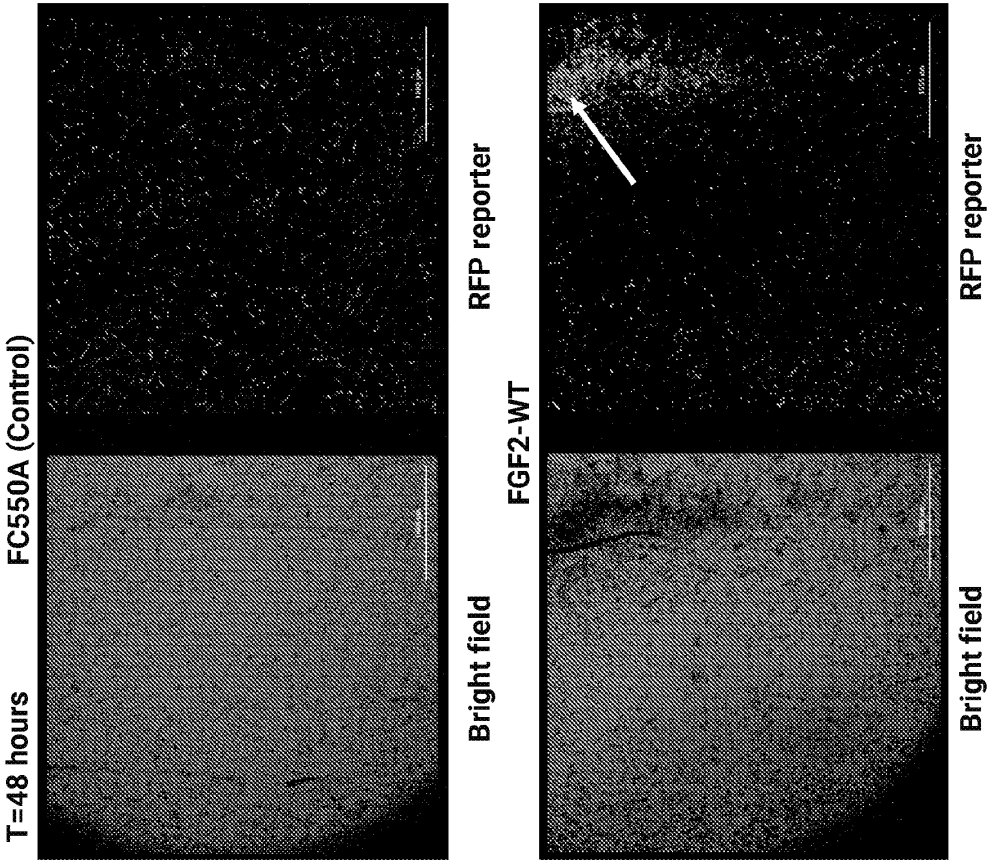


FIG. 8



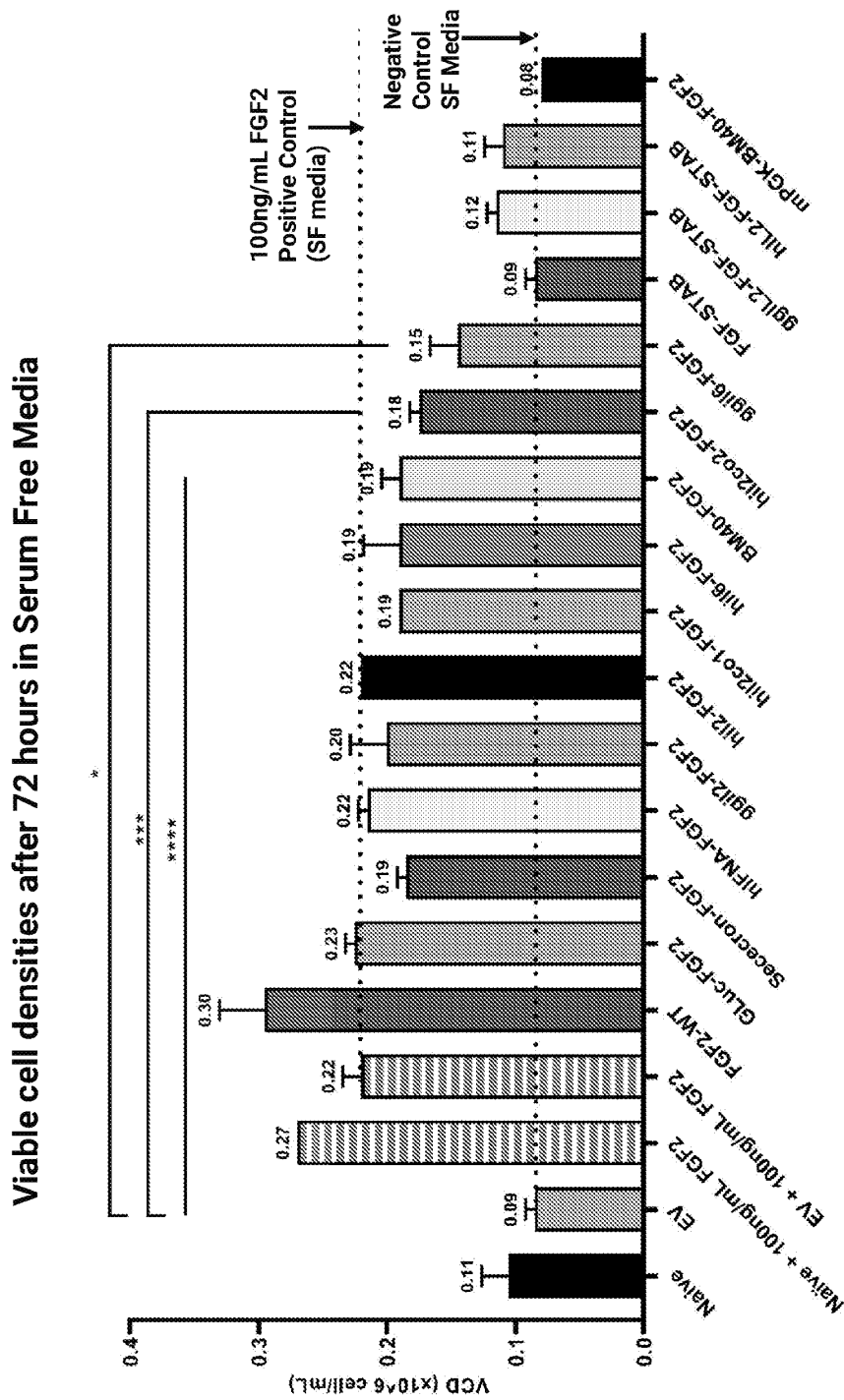


FIG. 10

Viable cell densities after 4 passages in Suspension in Serum
Free Media 0ng/mL FGF2

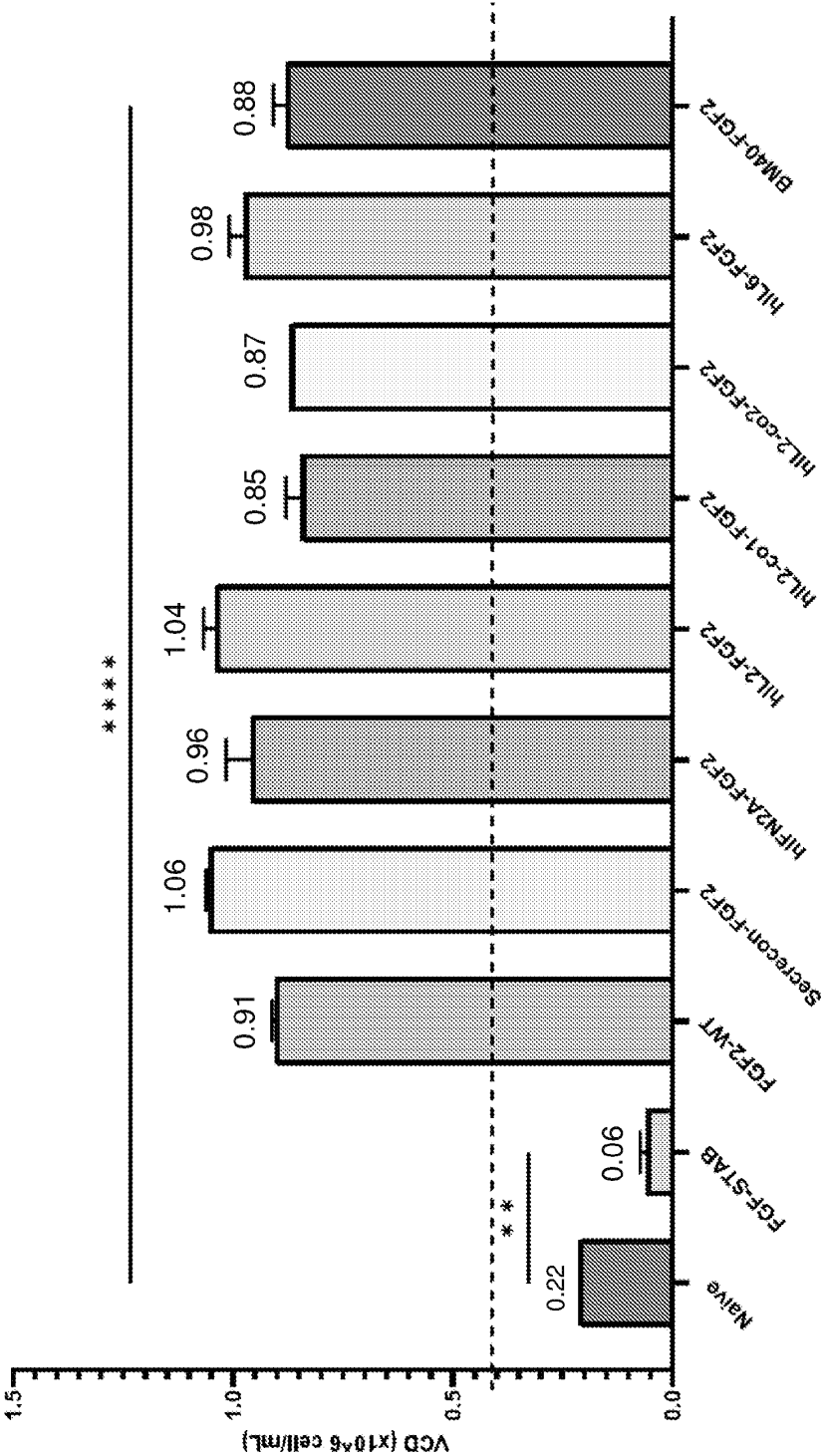


FIG. 11

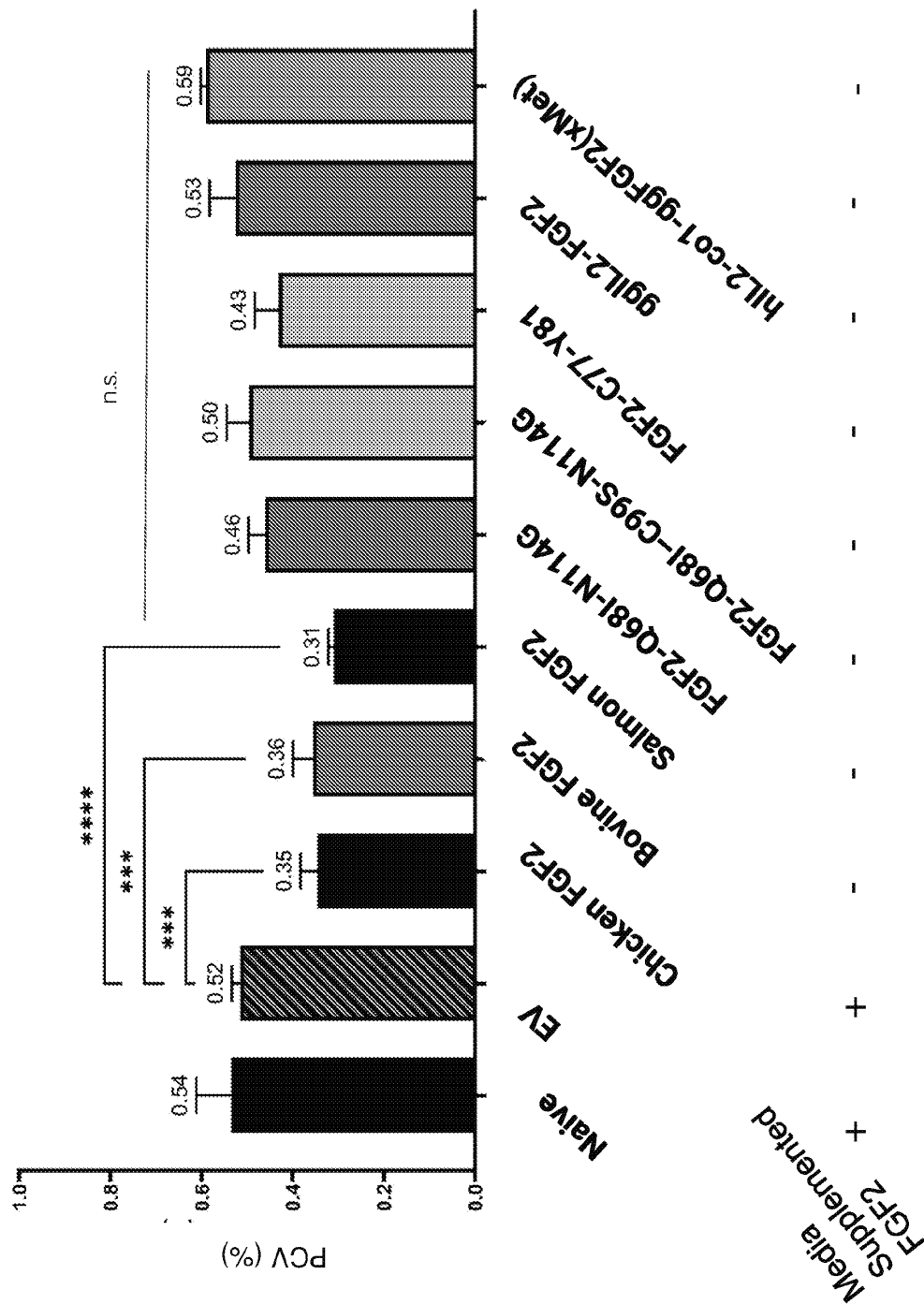


FIG. 13

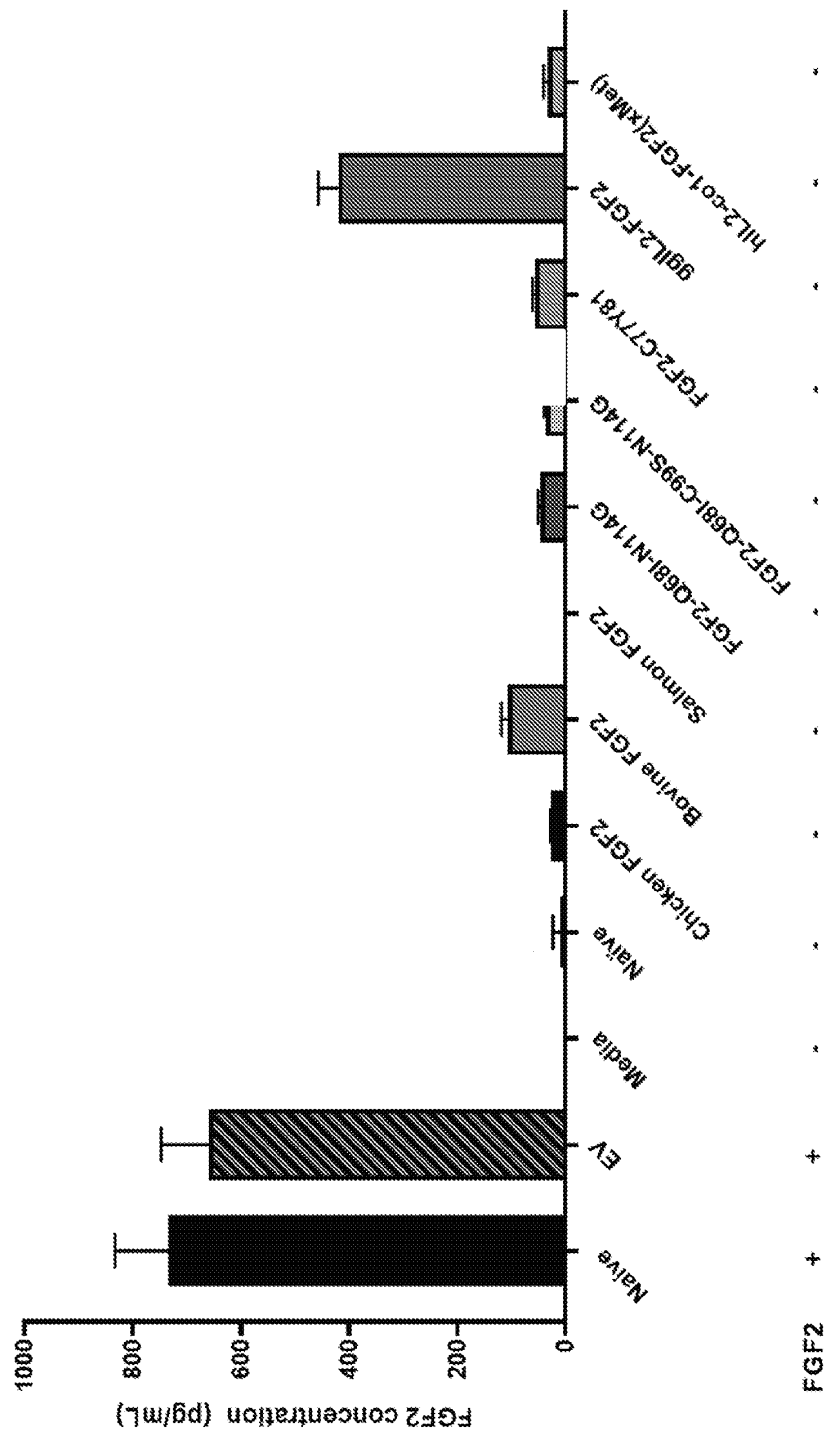


FIG. 14

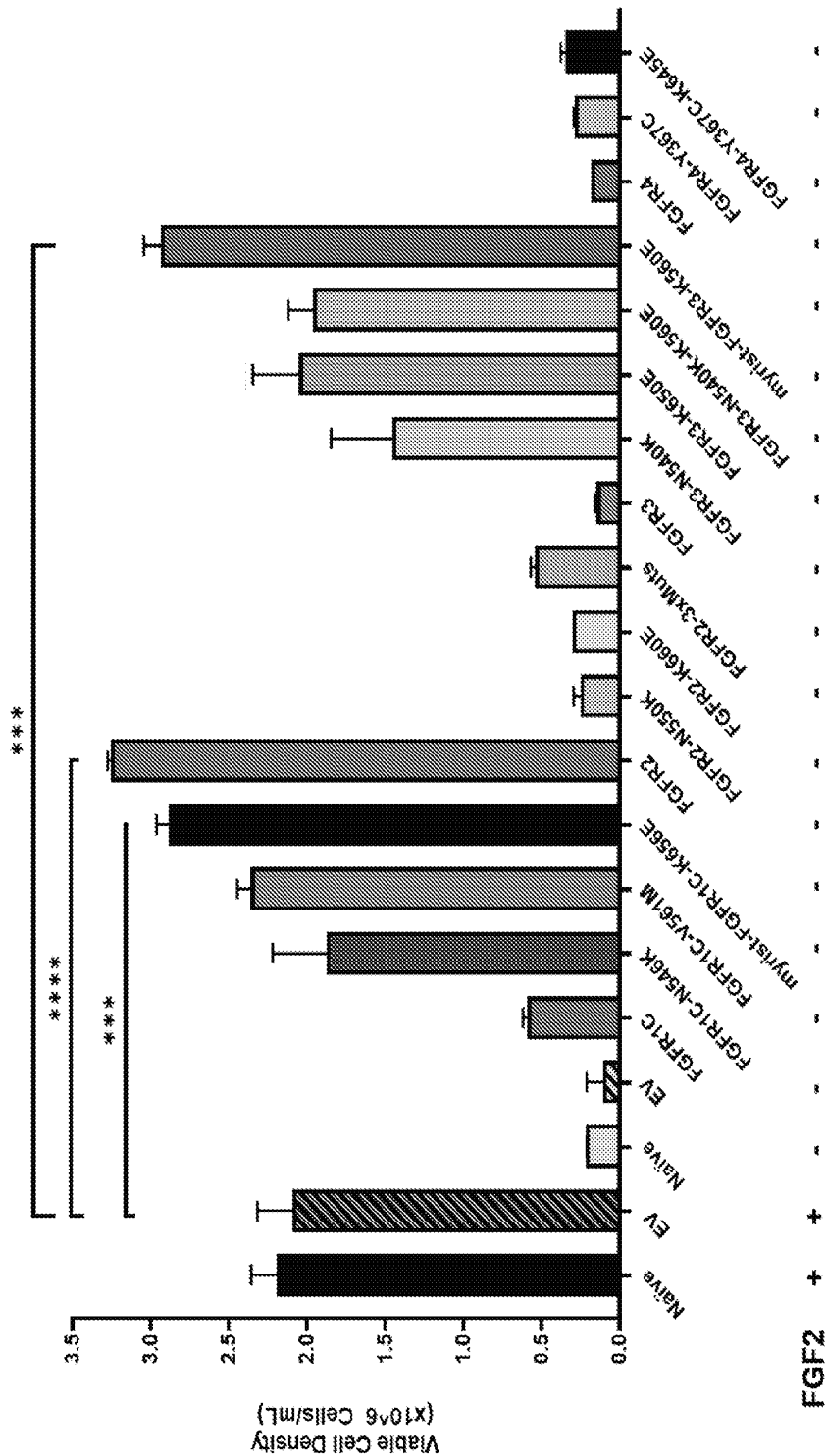


FIG. 15

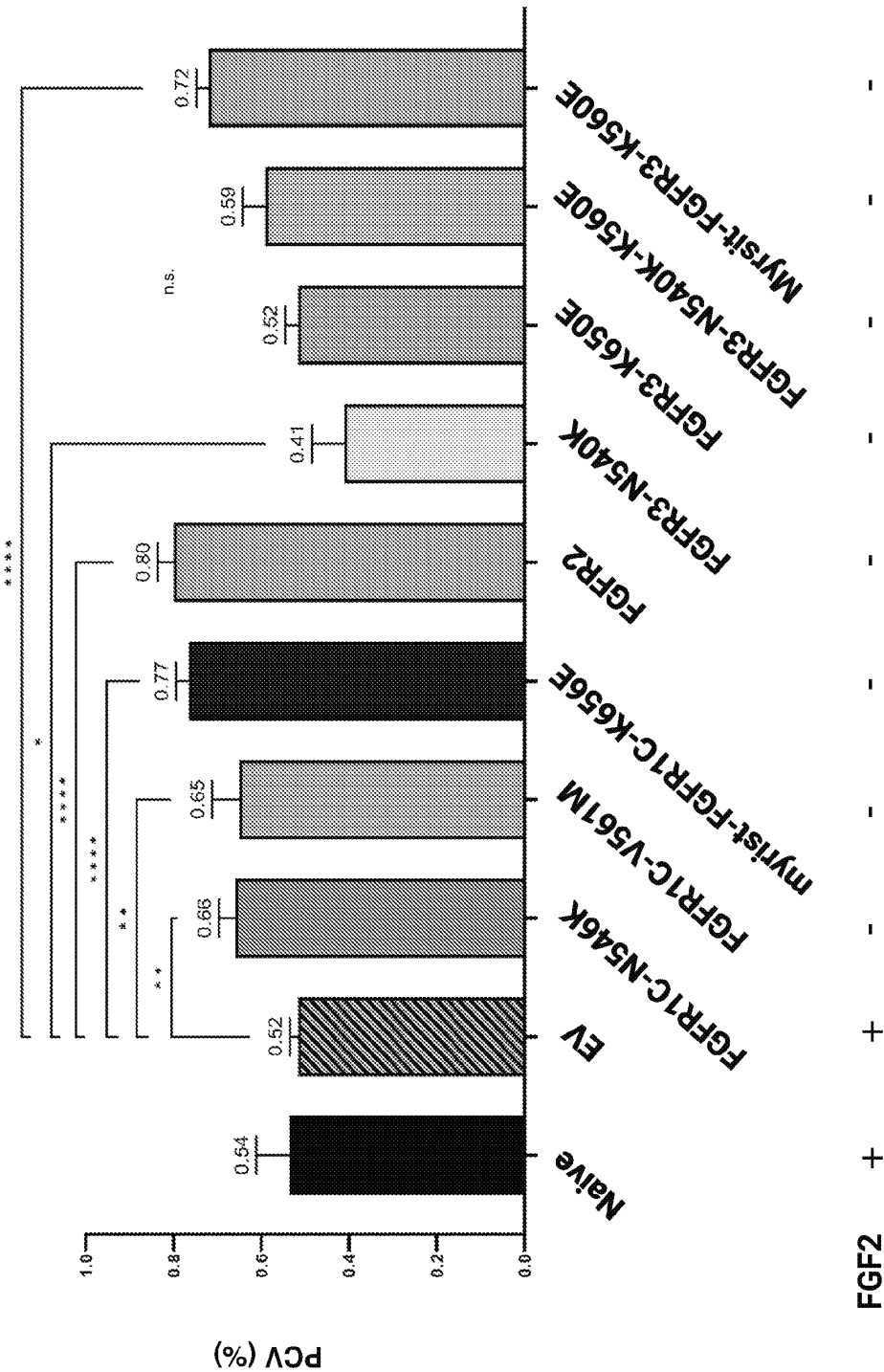


FIG. 16

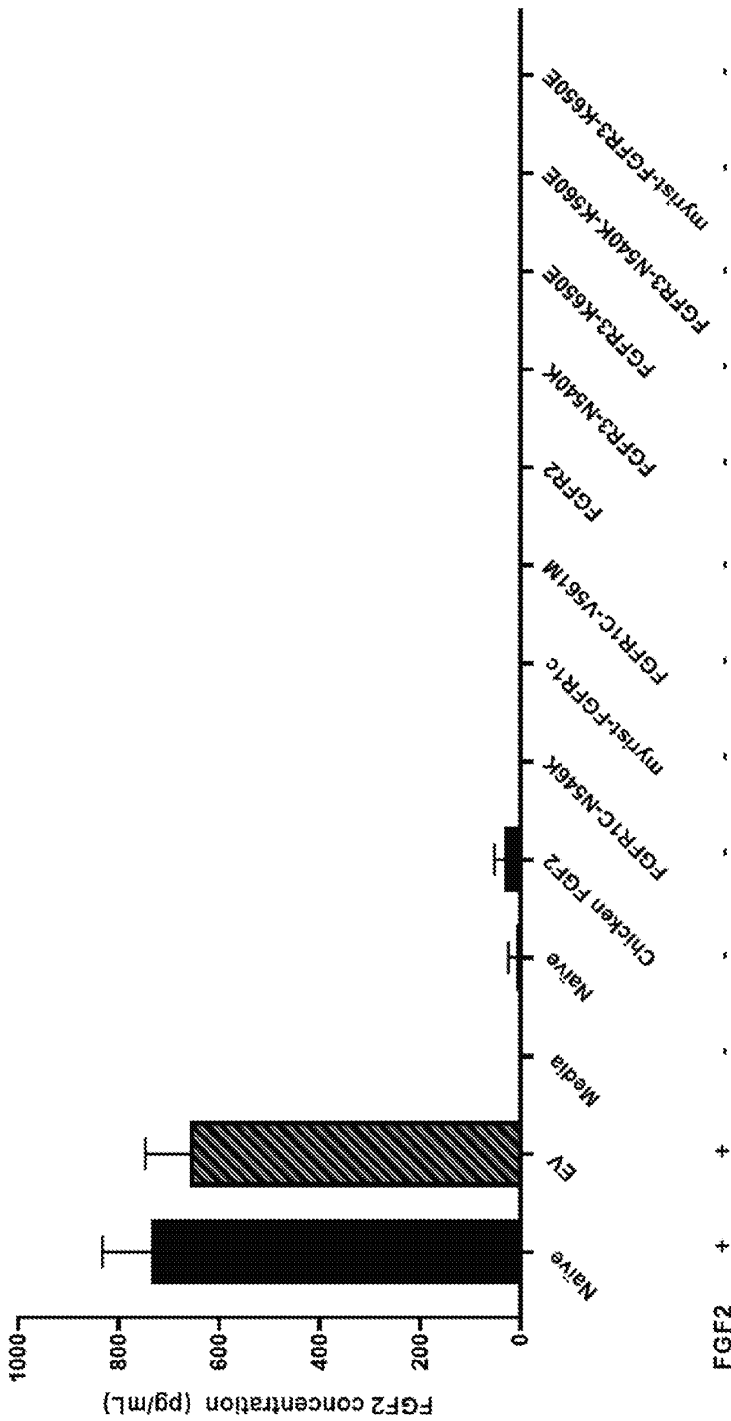


FIG. 17

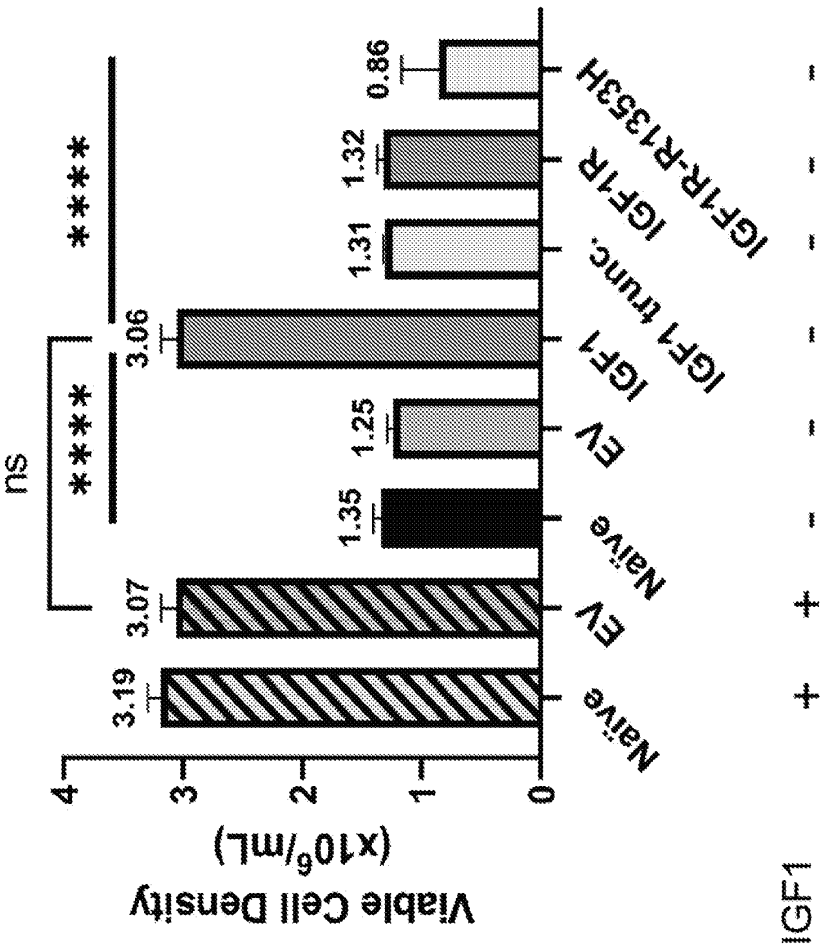


FIG. 18

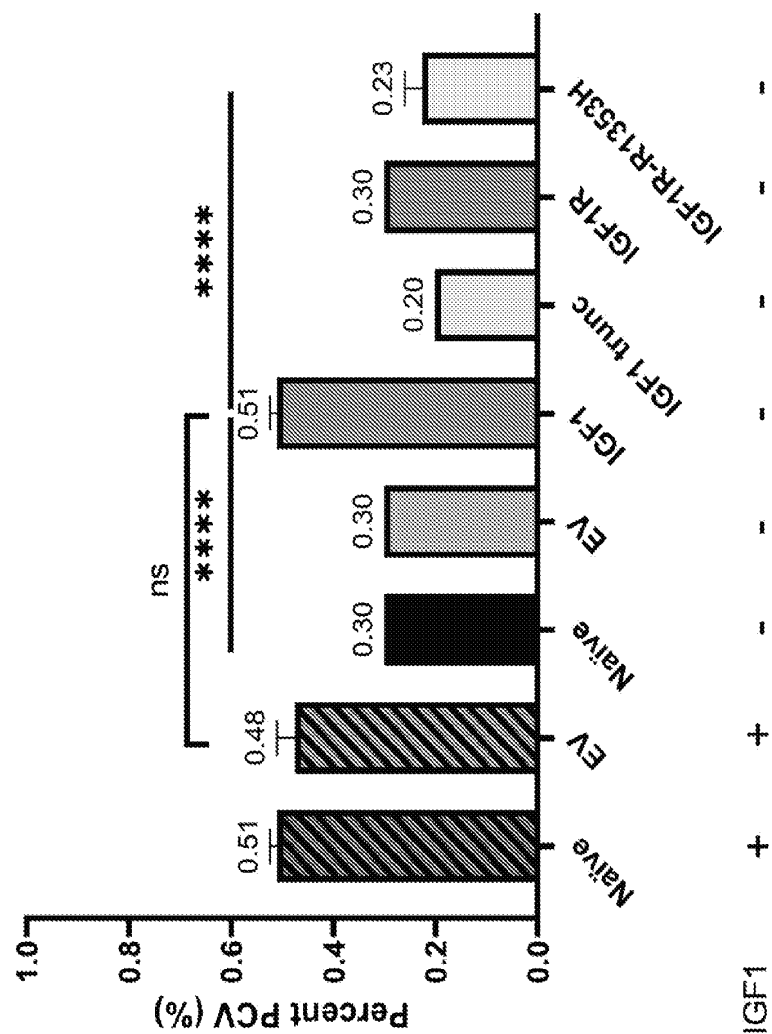


FIG. 19

Expression of IGF1 enables robust proliferation in IGF1-free ACF media

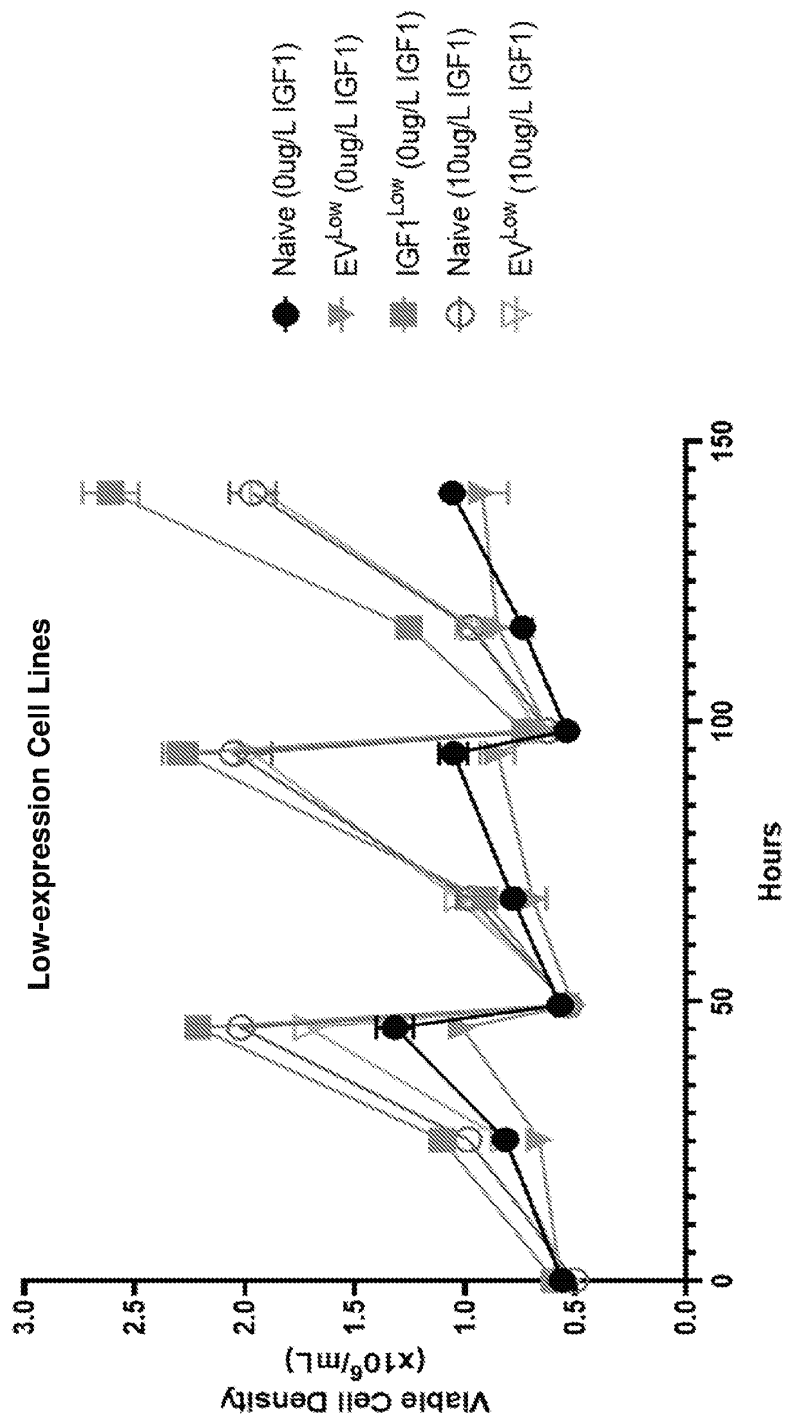


FIG. 20A

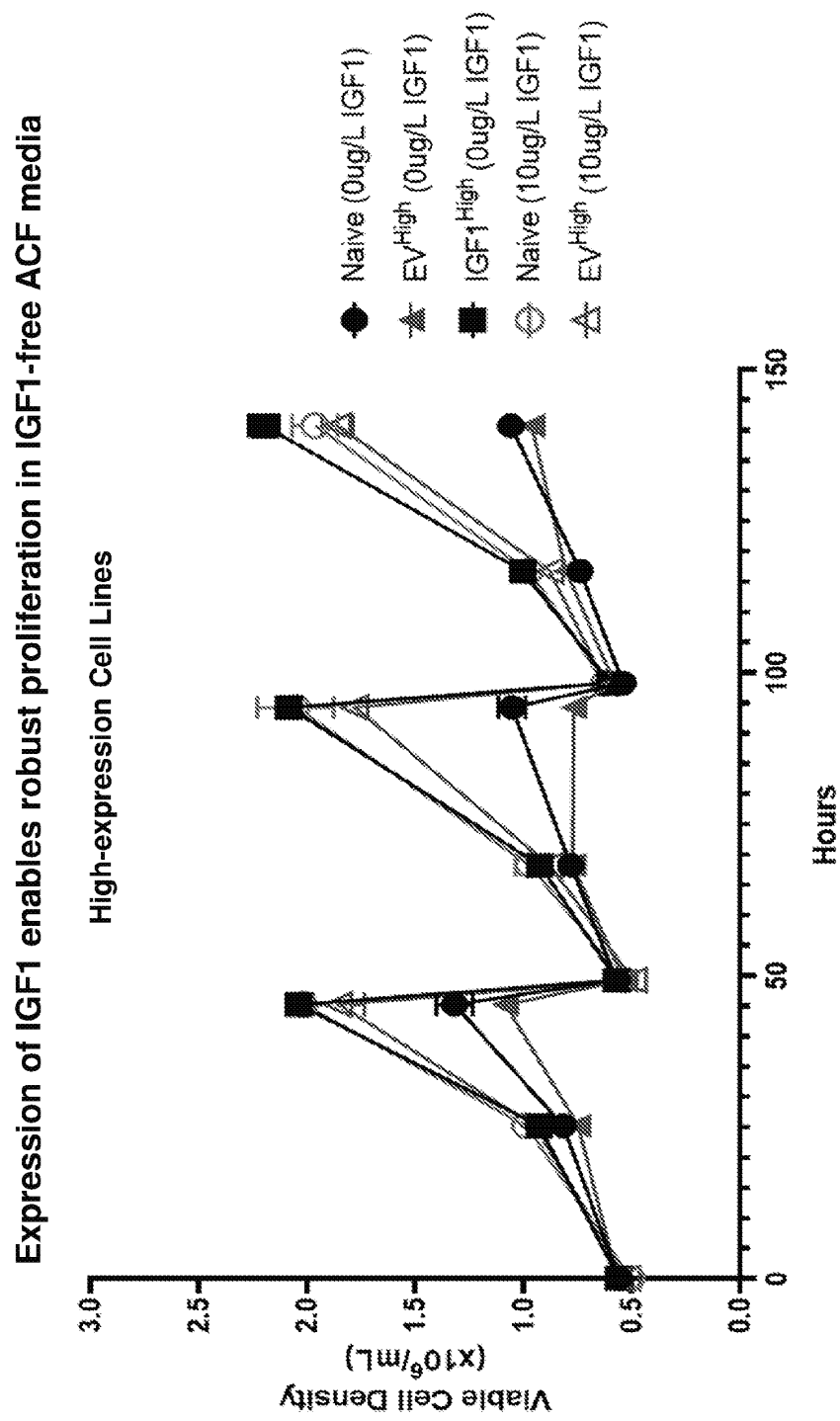


FIG. 20B

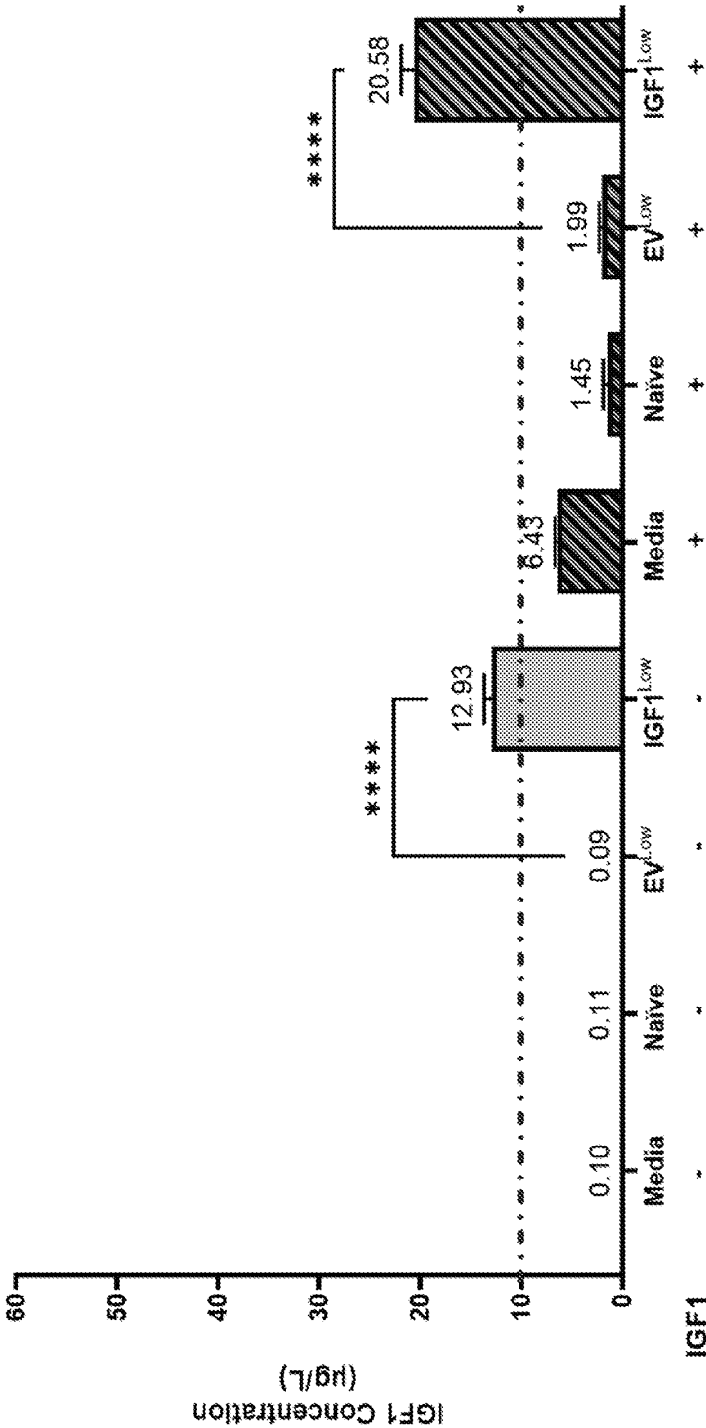


FIG. 21A

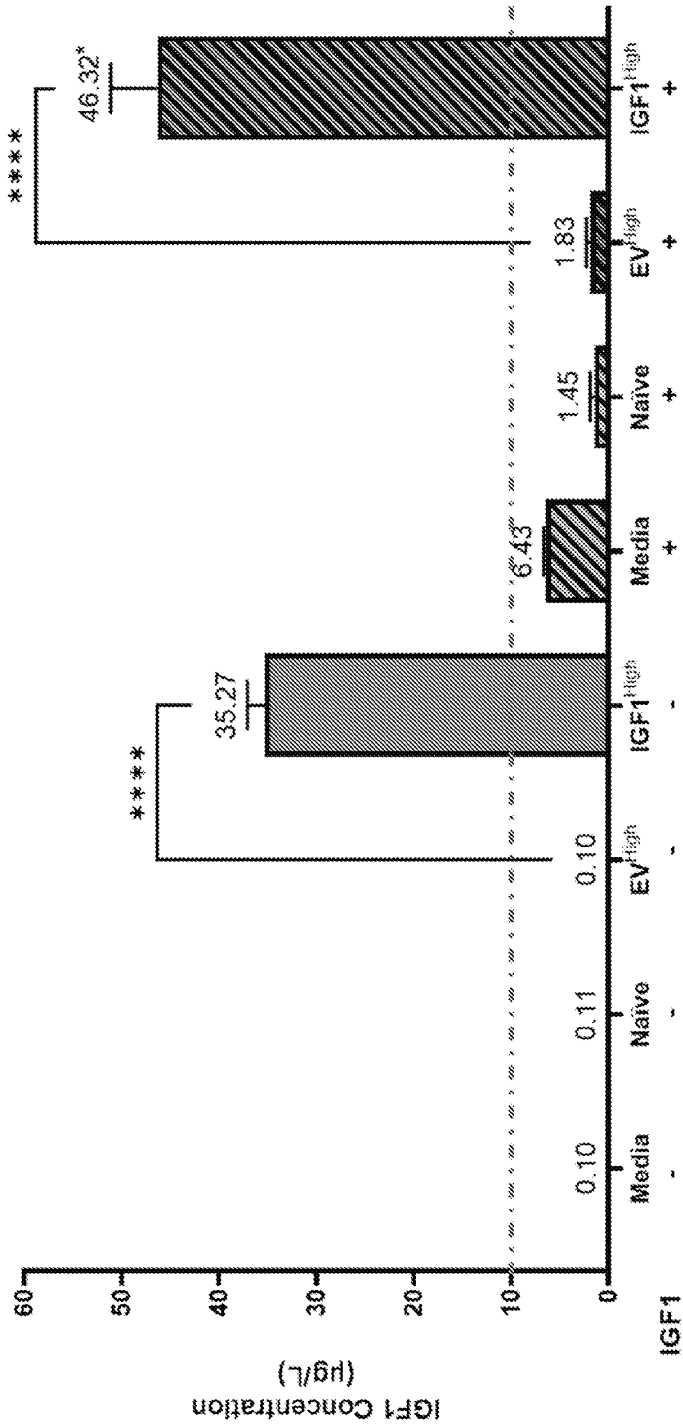


FIG. 21B

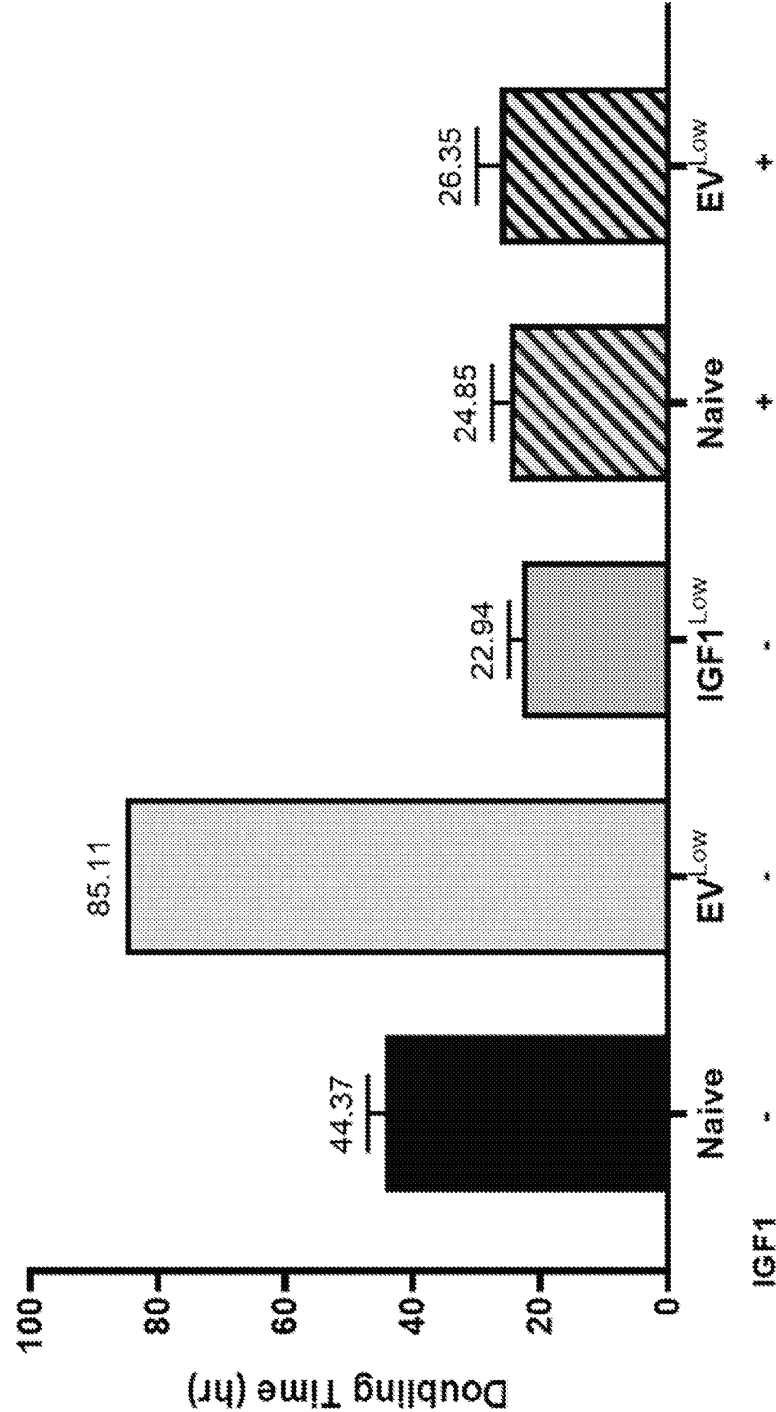


FIG. 22

IGF1^{High/Low} cells achieved significant cell densities in IGF1-free media

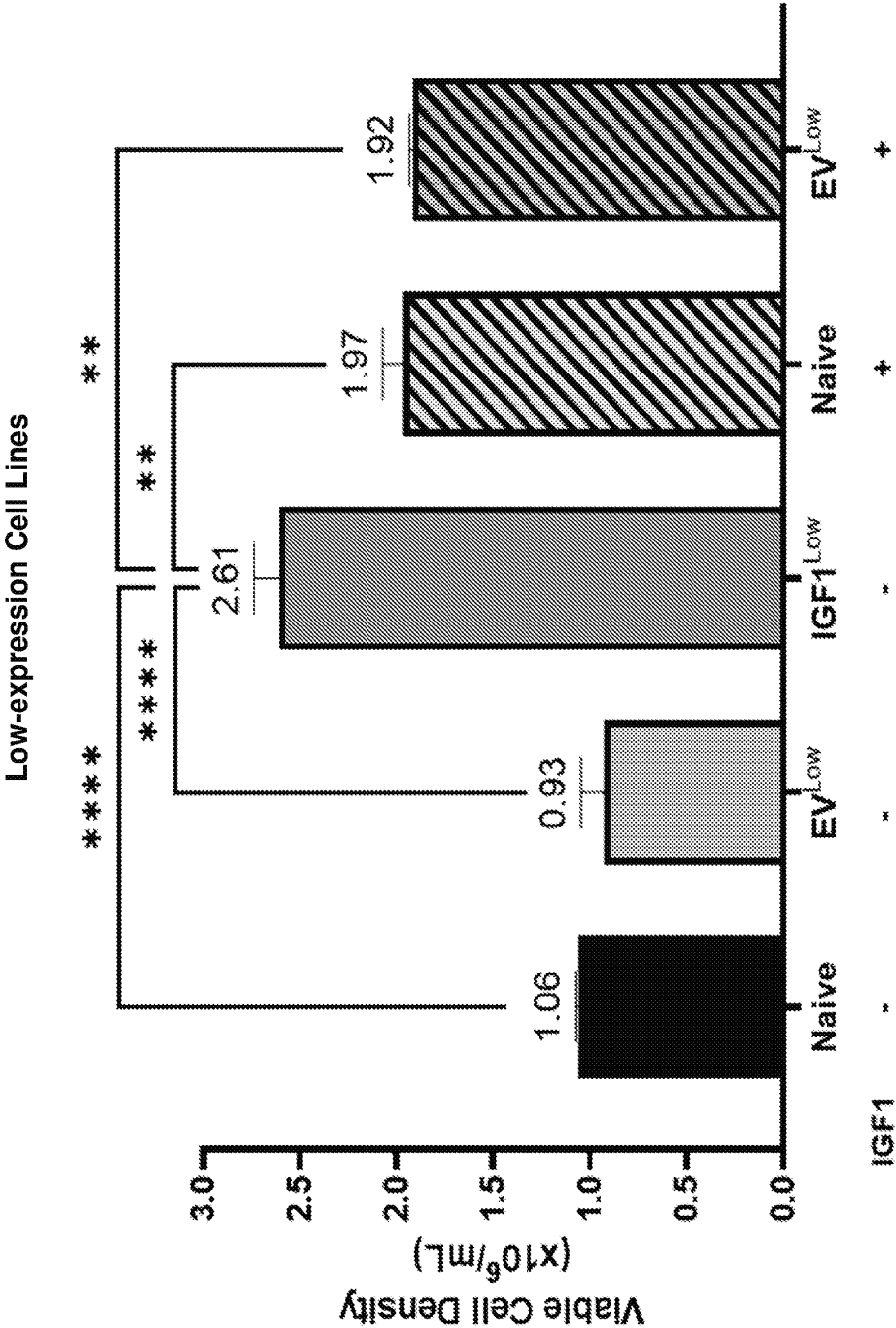


FIG. 23A

IGF1^{High/Low} cells achieved significant cell densities in IGF1-free media
High-expression Cell Lines

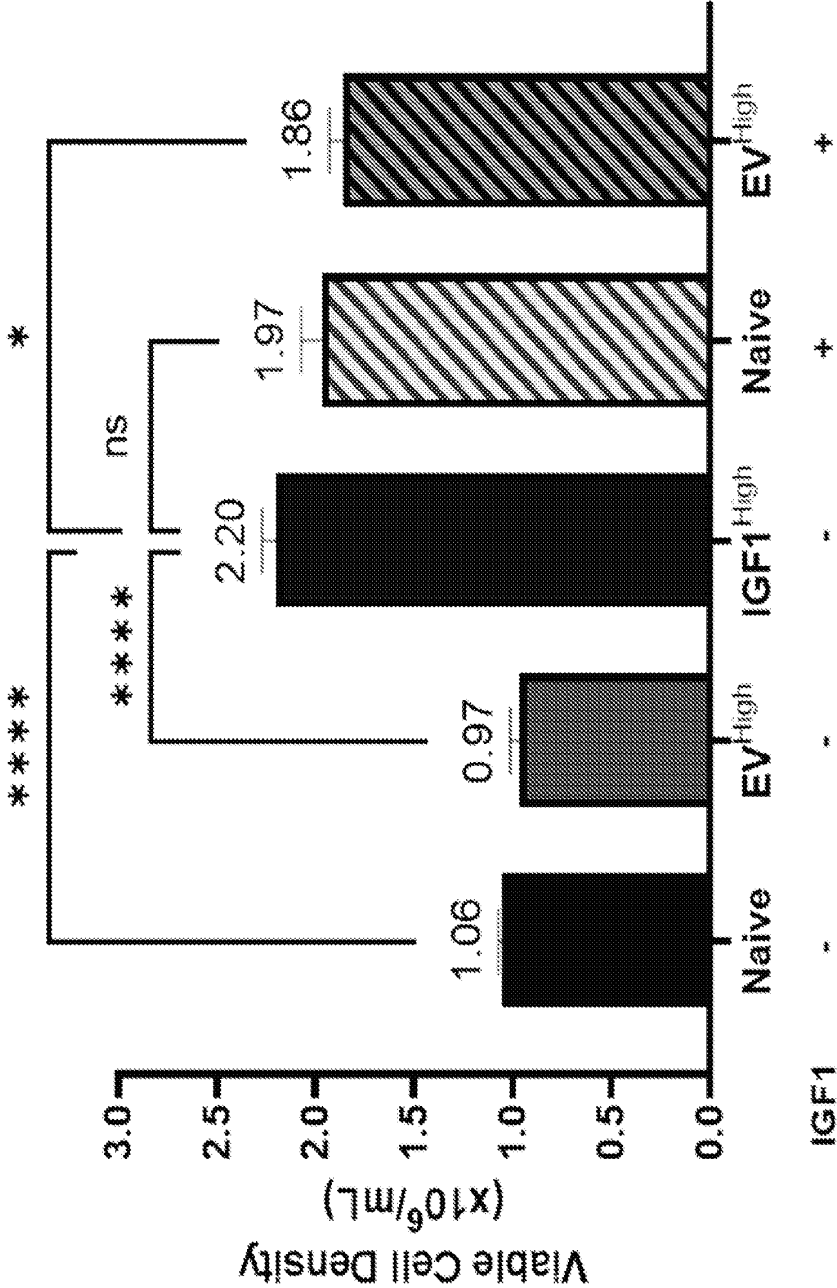


FIG. 23B

PCV of IGF1^{High/Low} significantly higher than controls

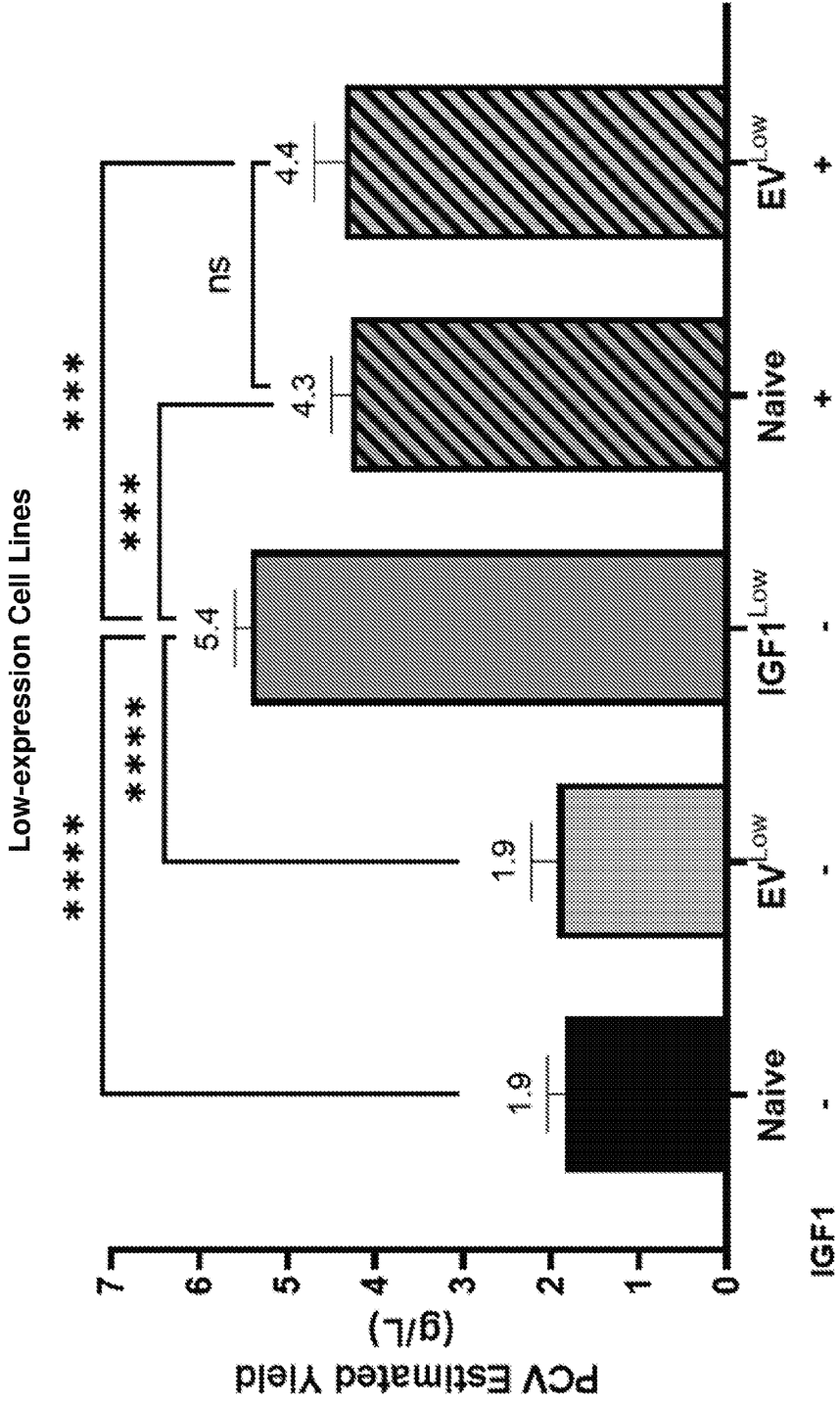


FIG. 23C

PCV of IGF1^{High/Low} significantly higher than controls

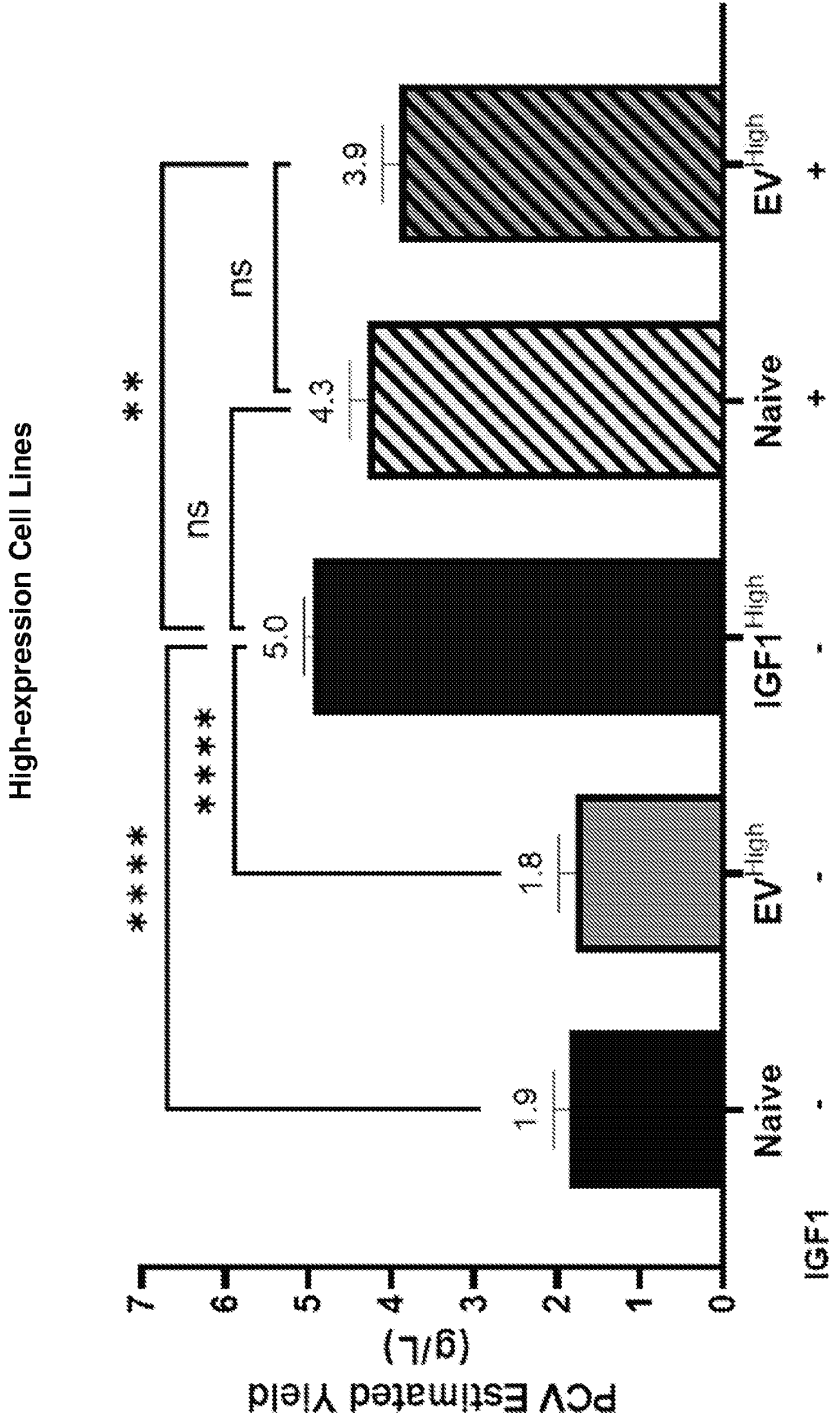


FIG. 23D

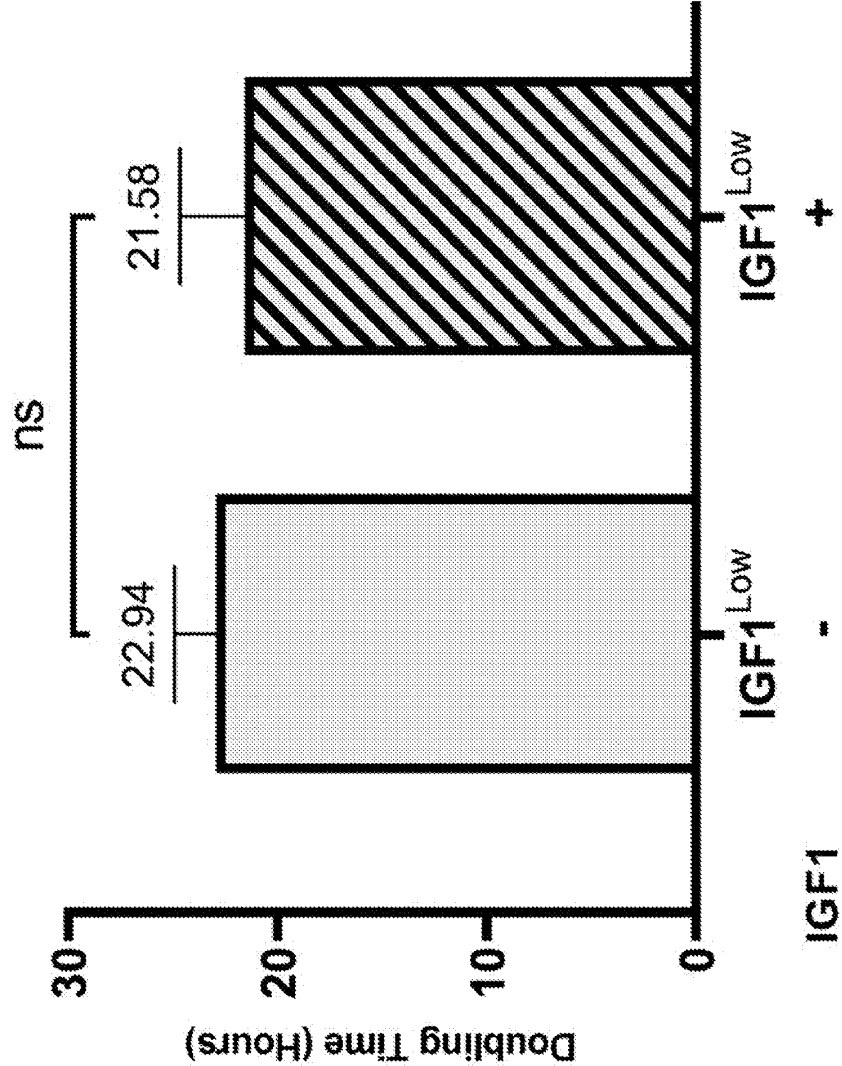


FIG. 24

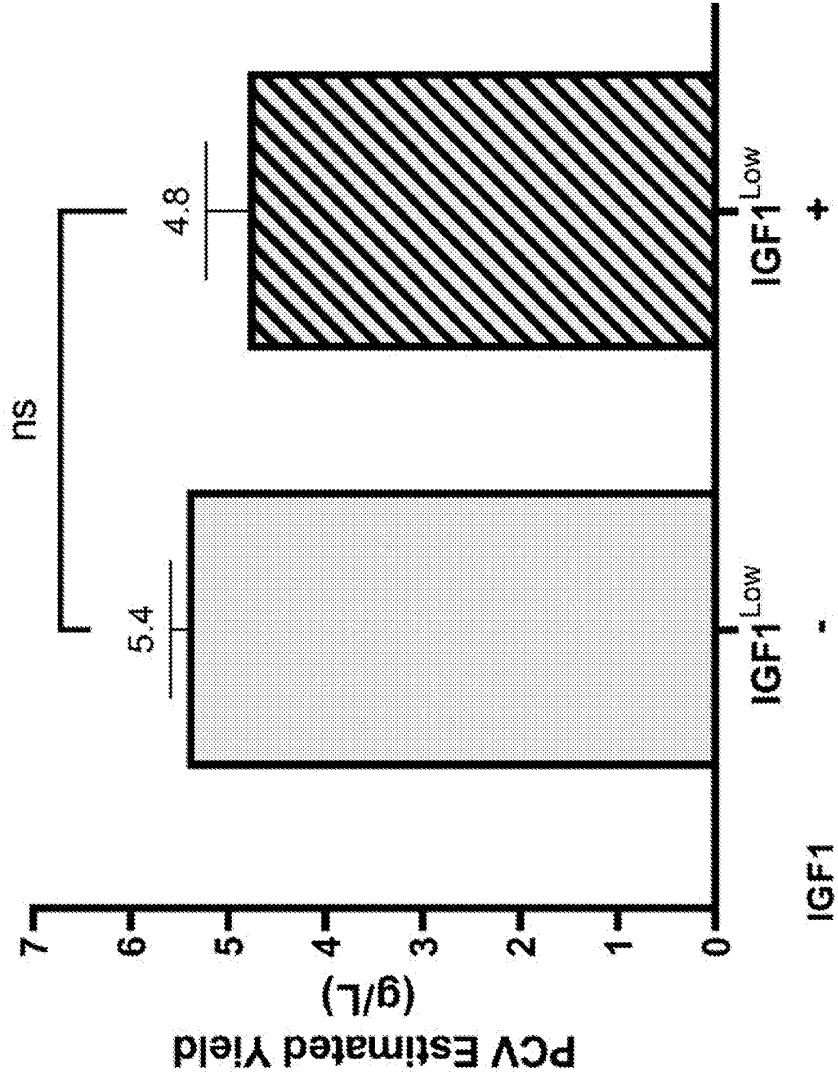


FIG. 25

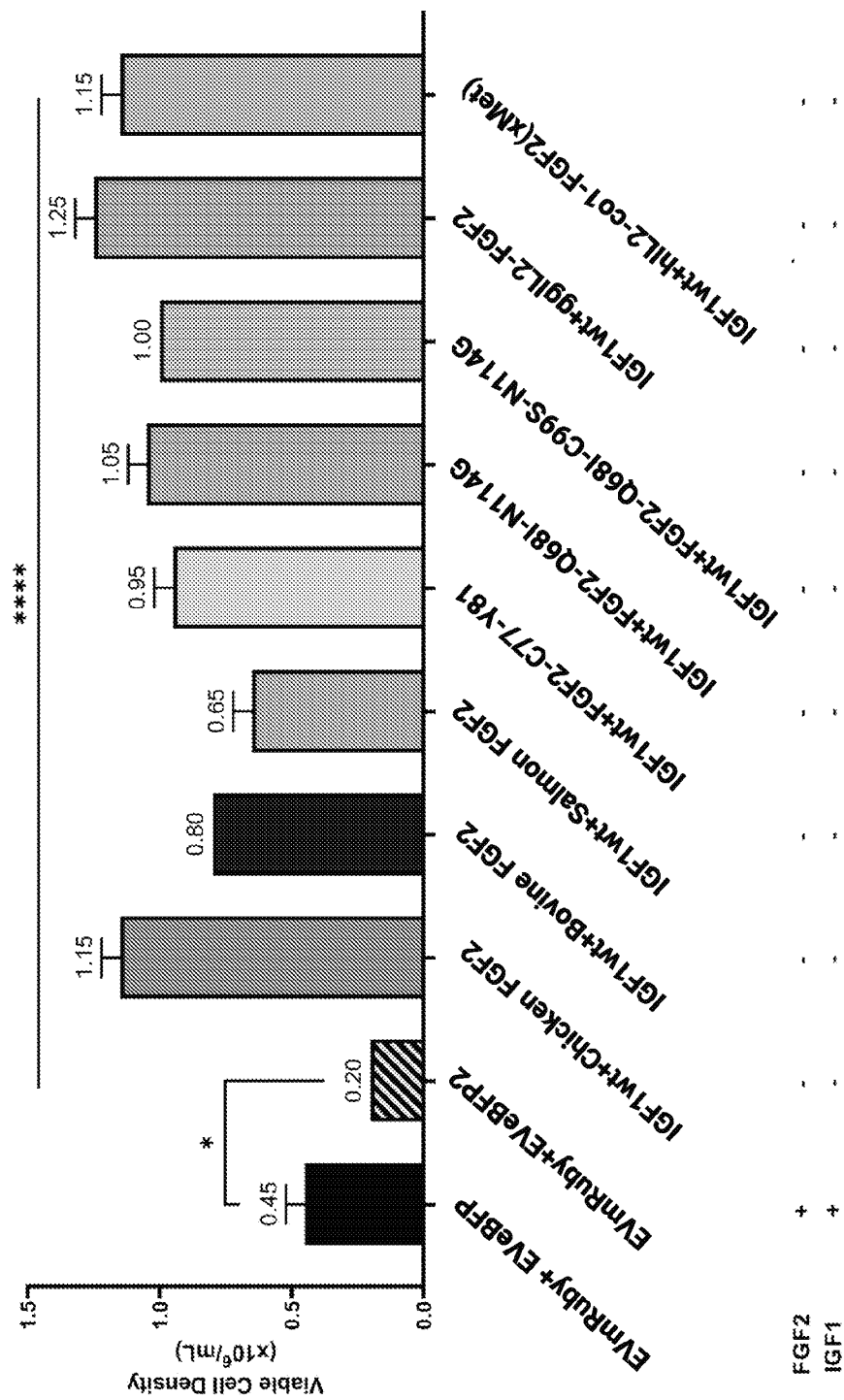
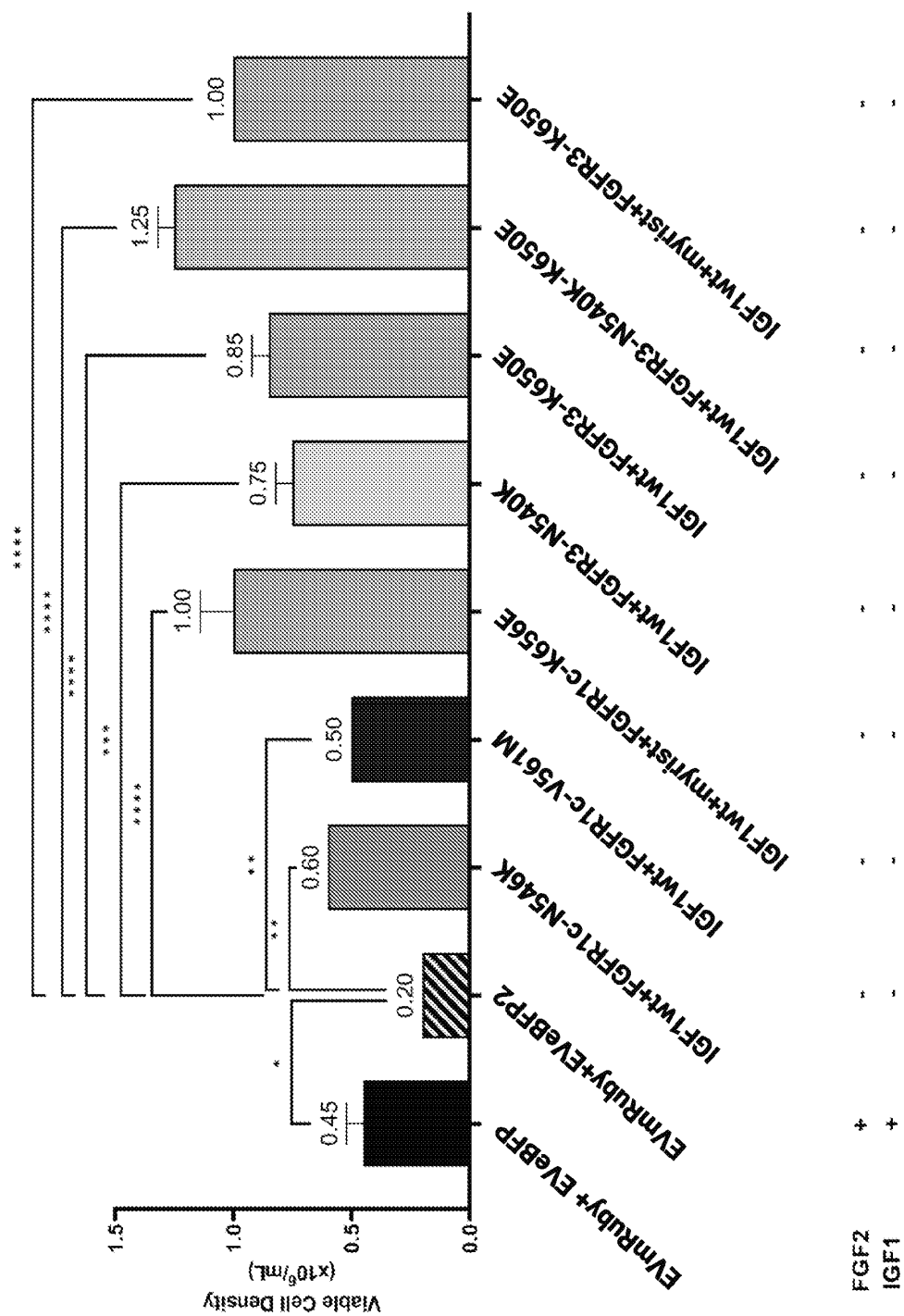


FIG. 26



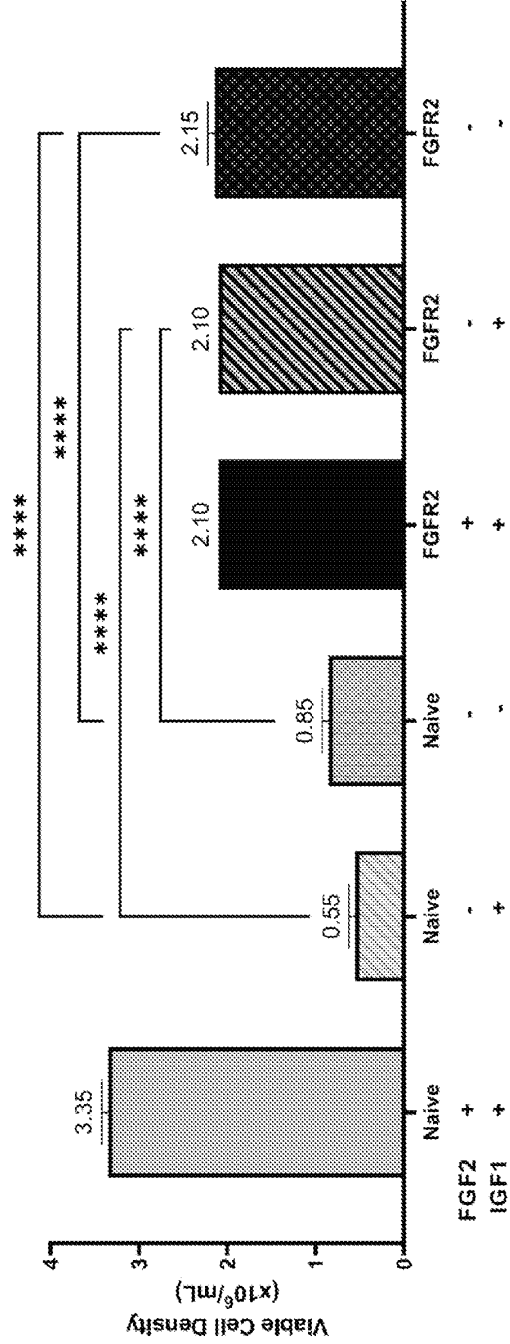


FIG. 28

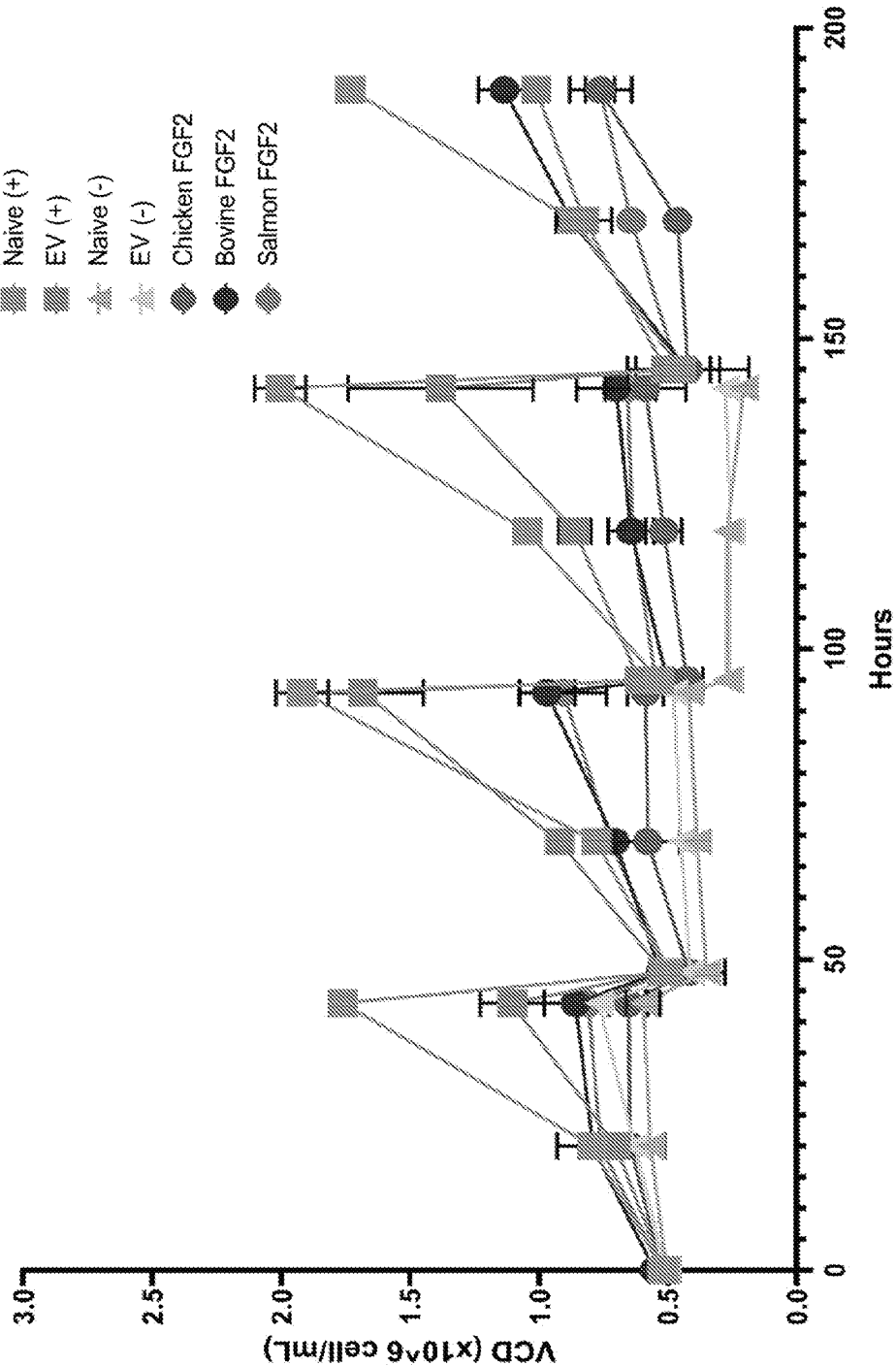


FIG. 29A

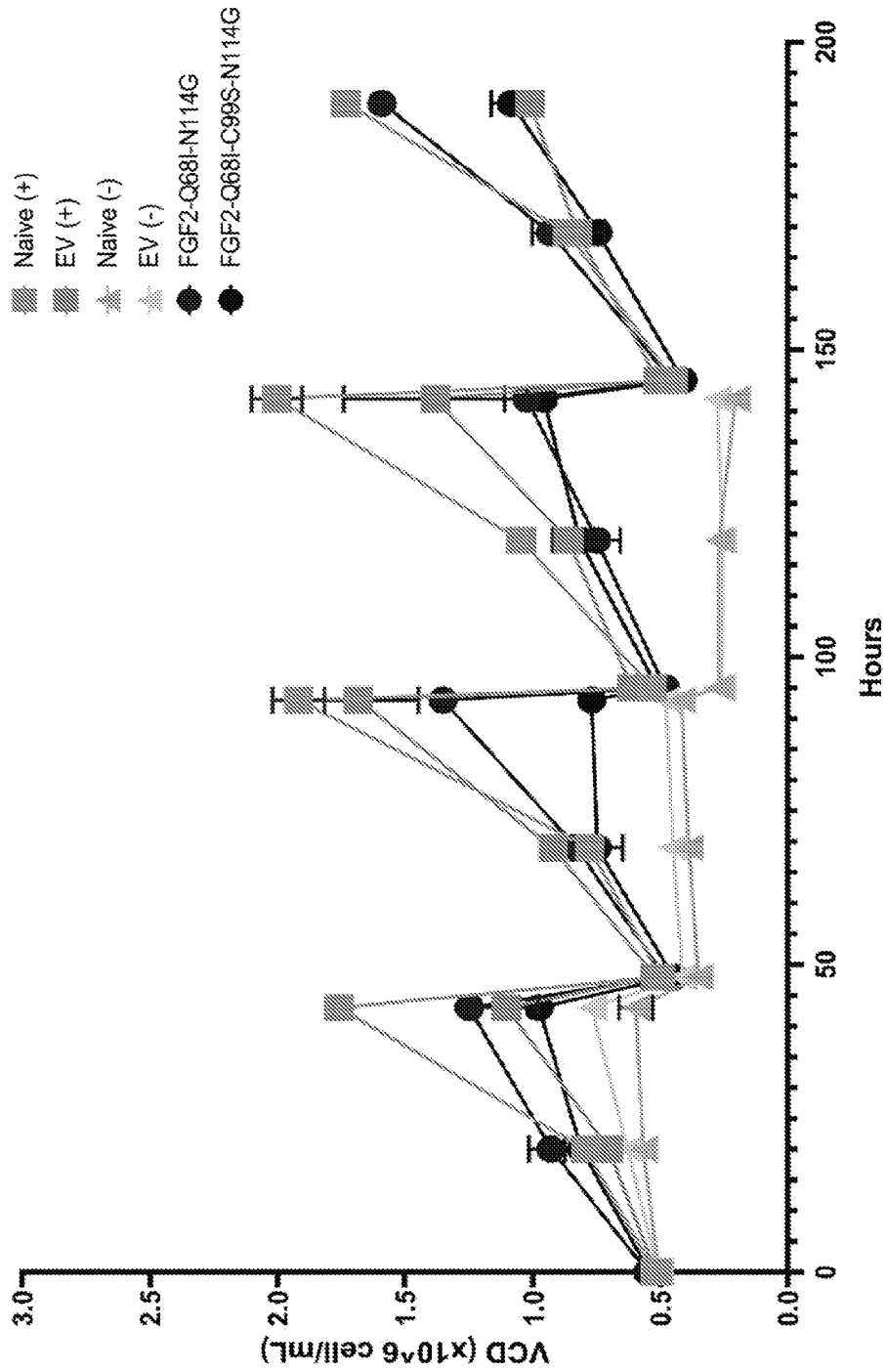


FIG. 29B

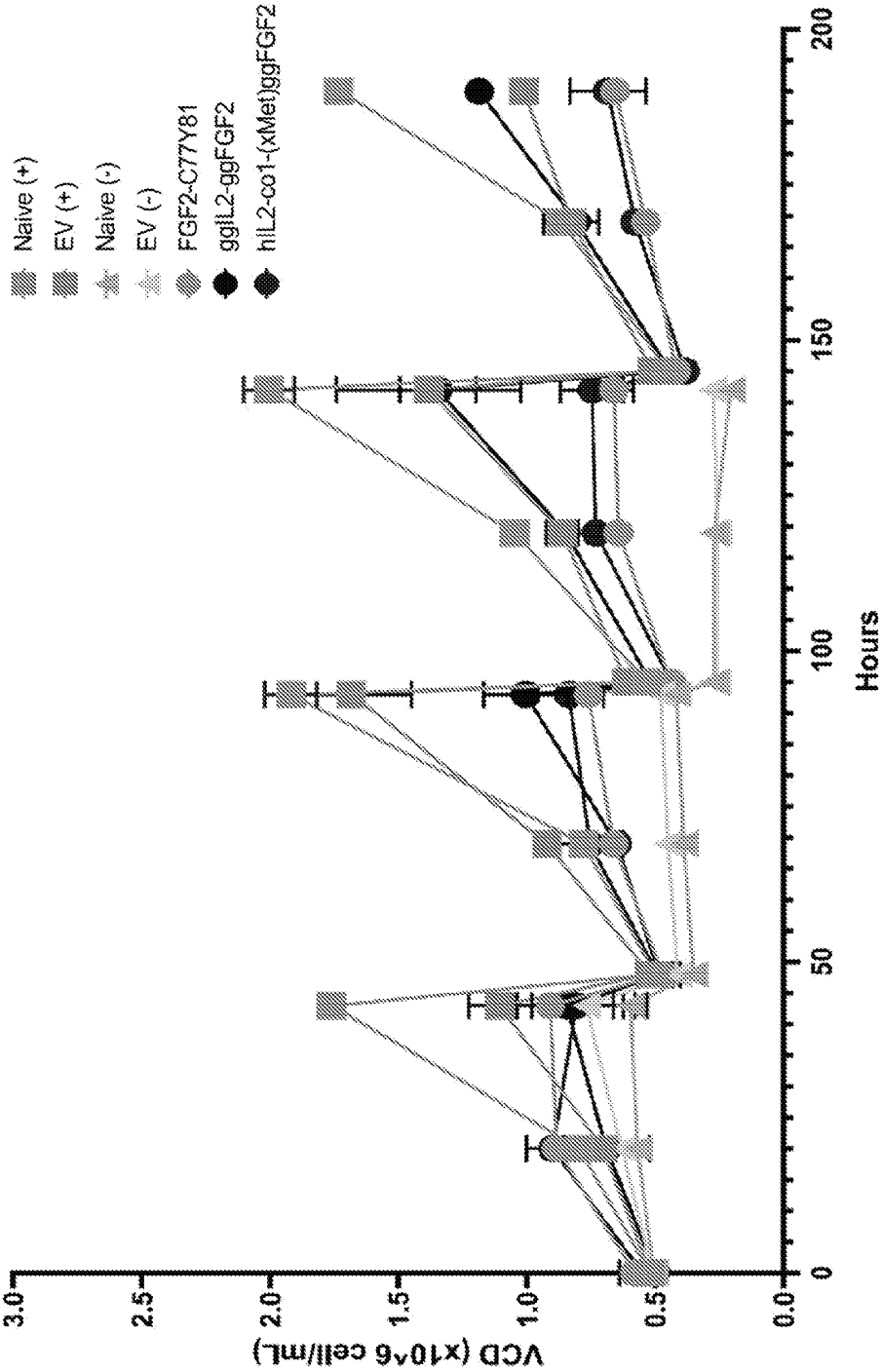


FIG. 29C

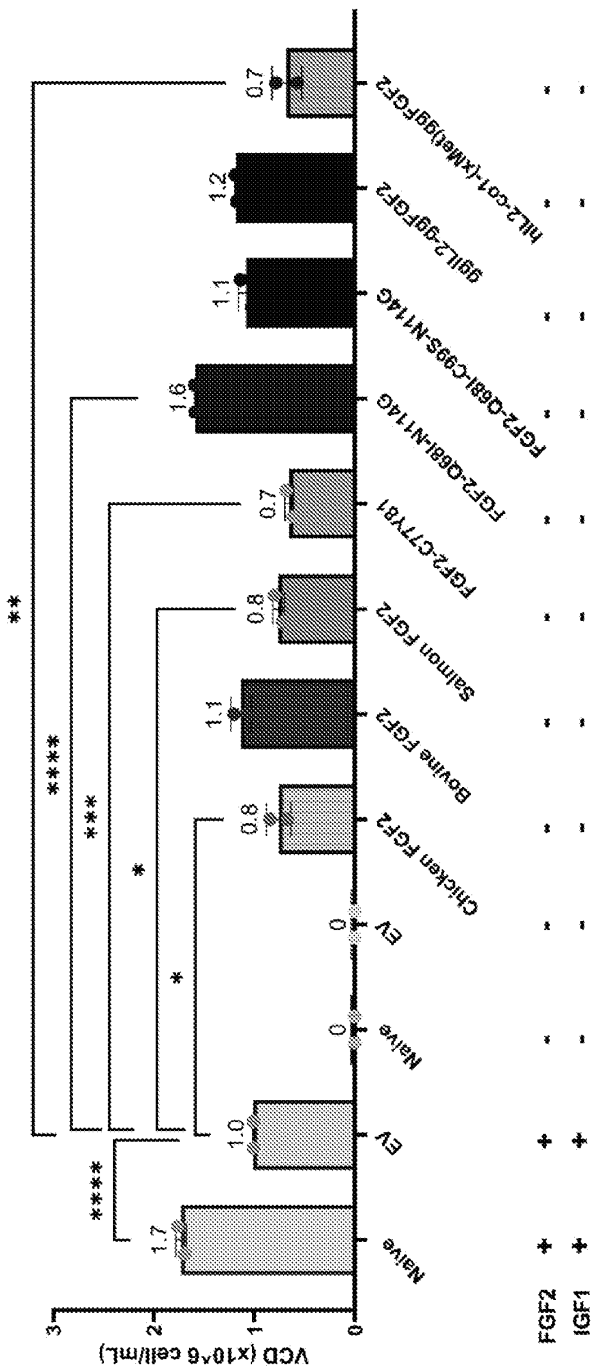


FIG. 30

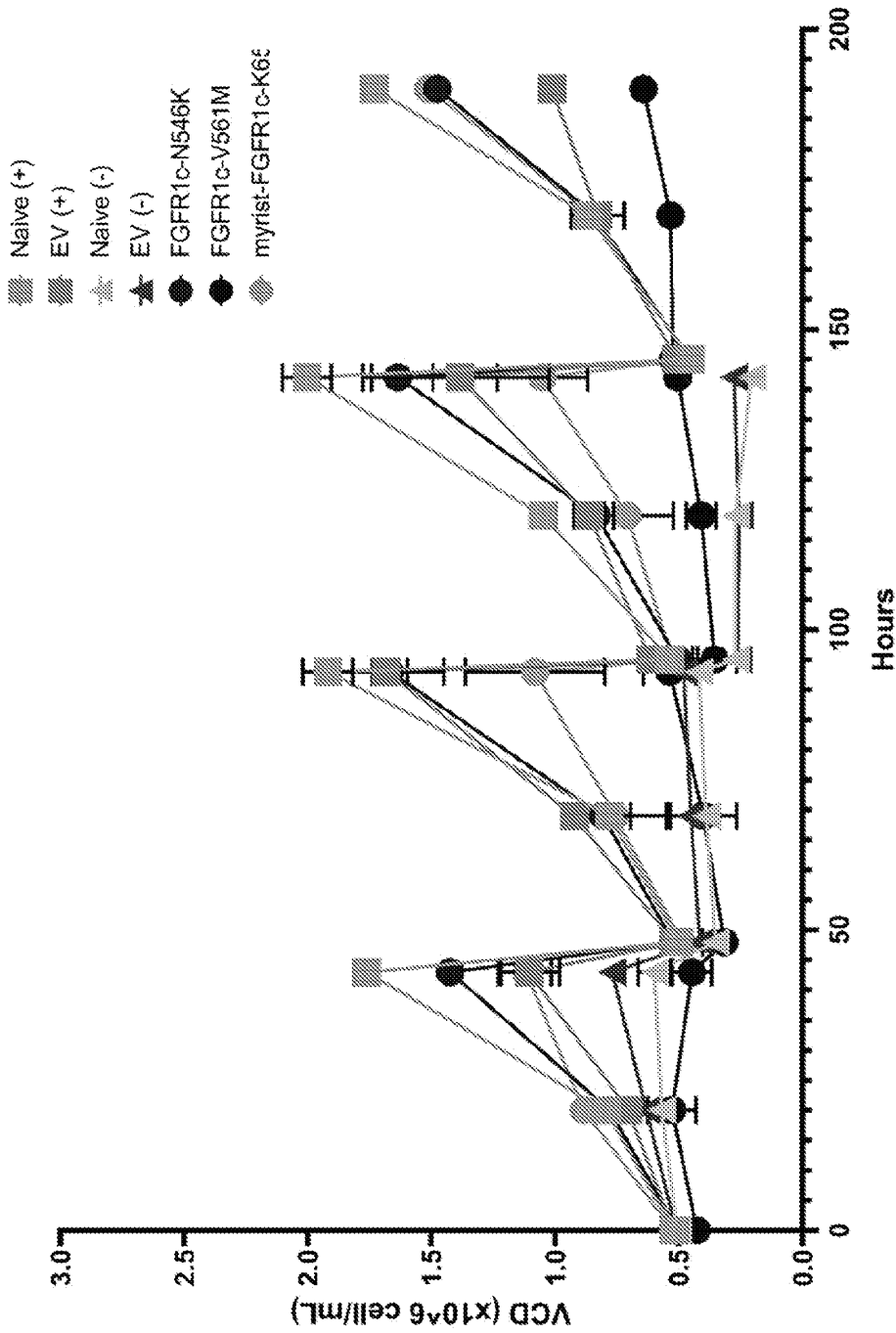


FIG. 31A

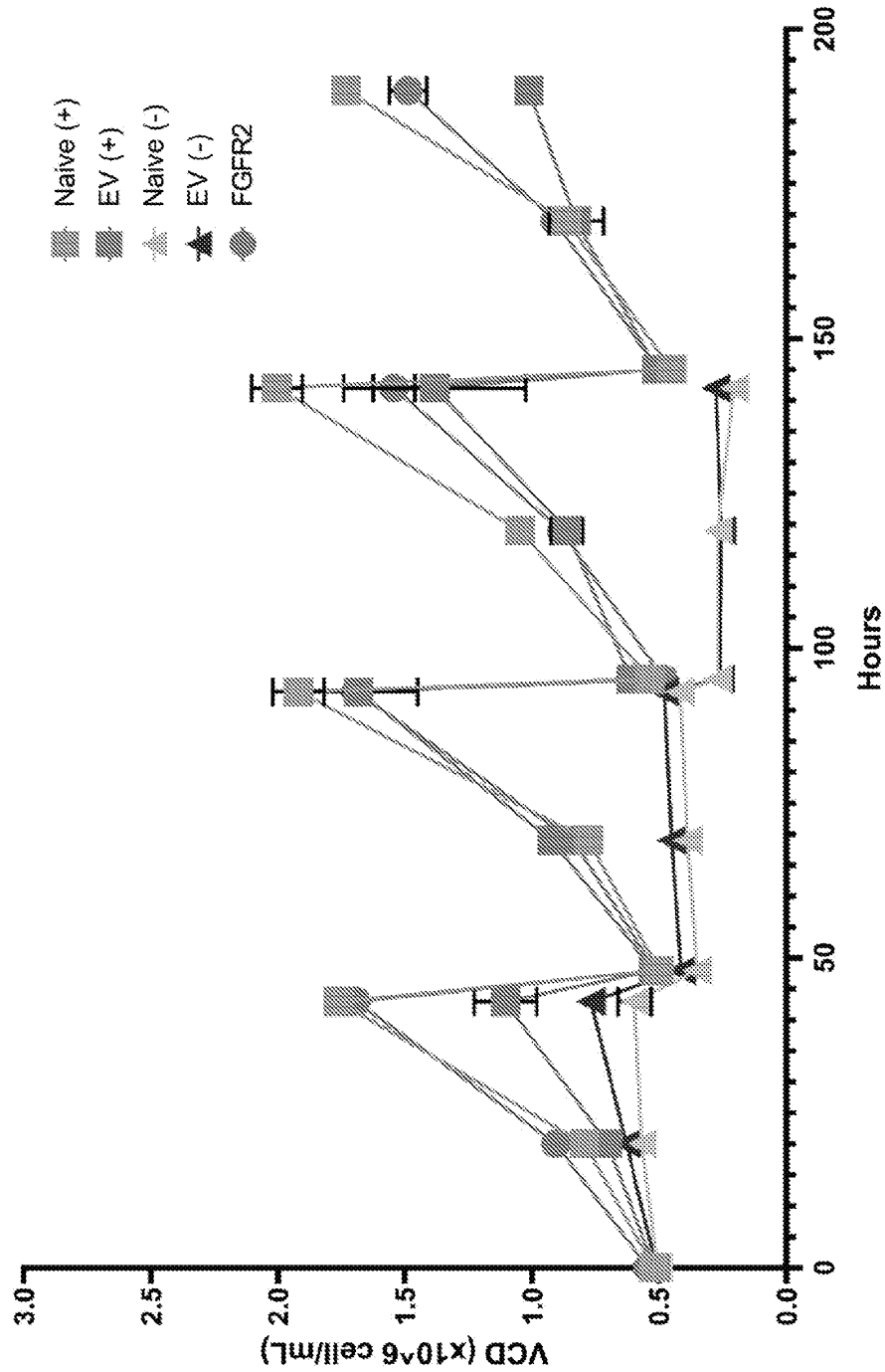


FIG. 31B

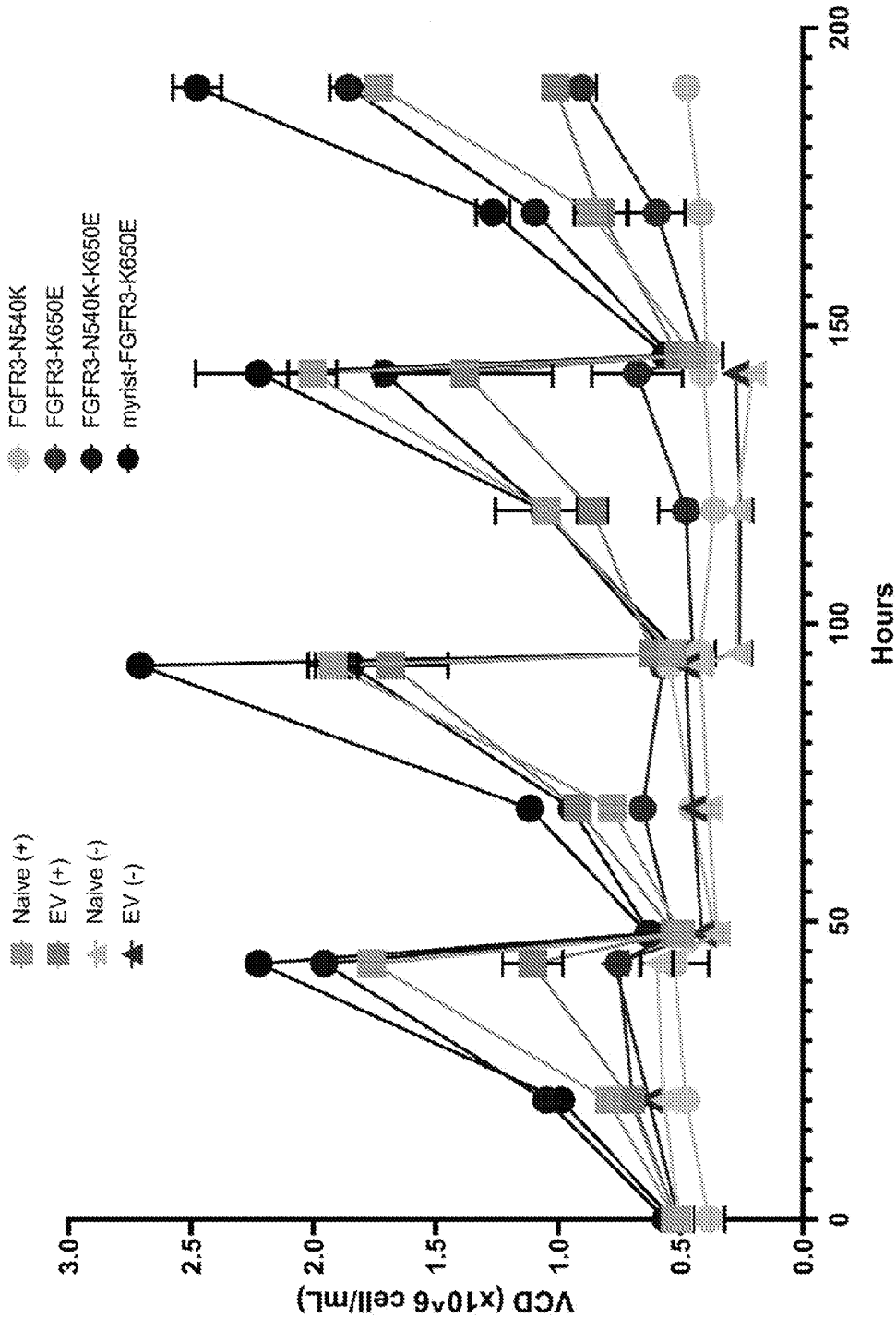


FIG. 31C

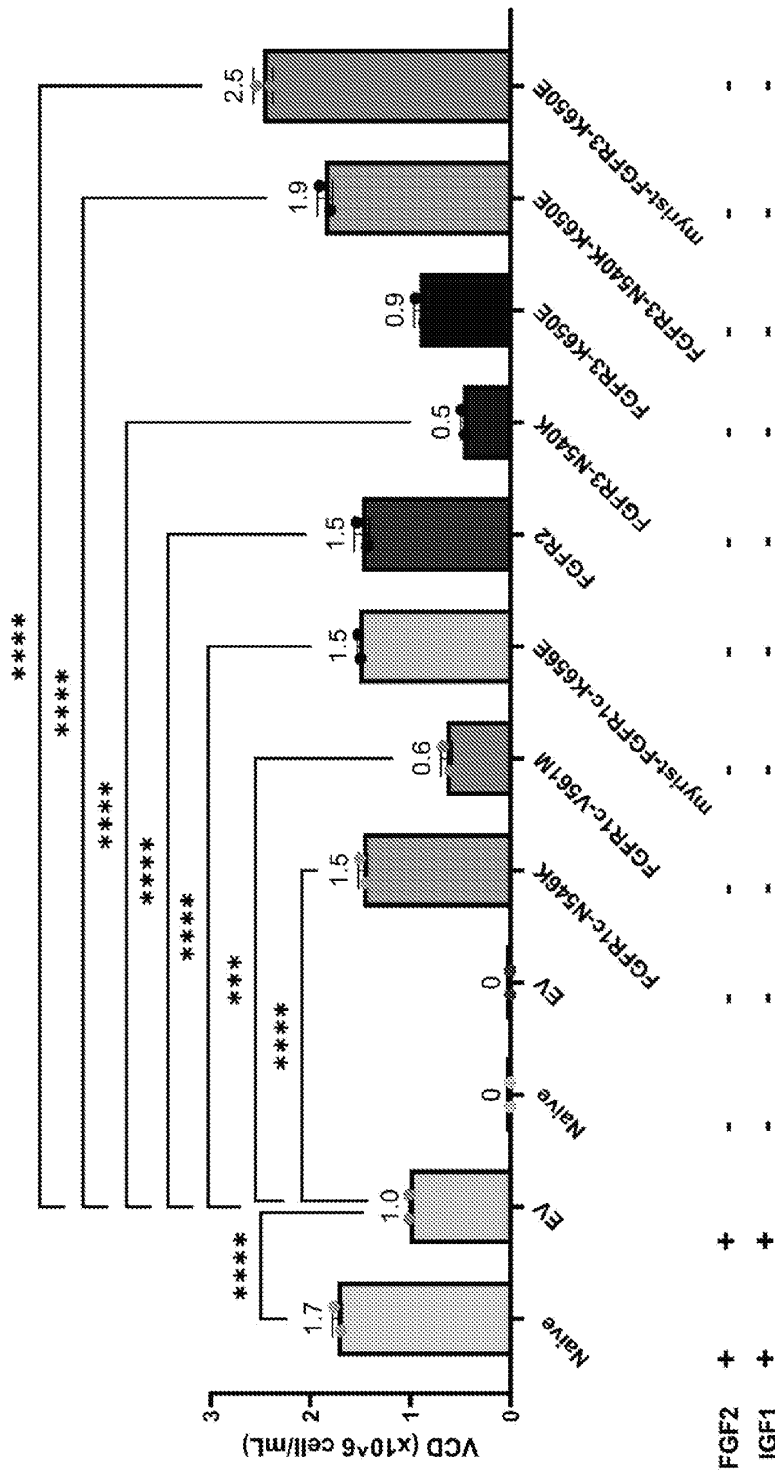


FIG. 32

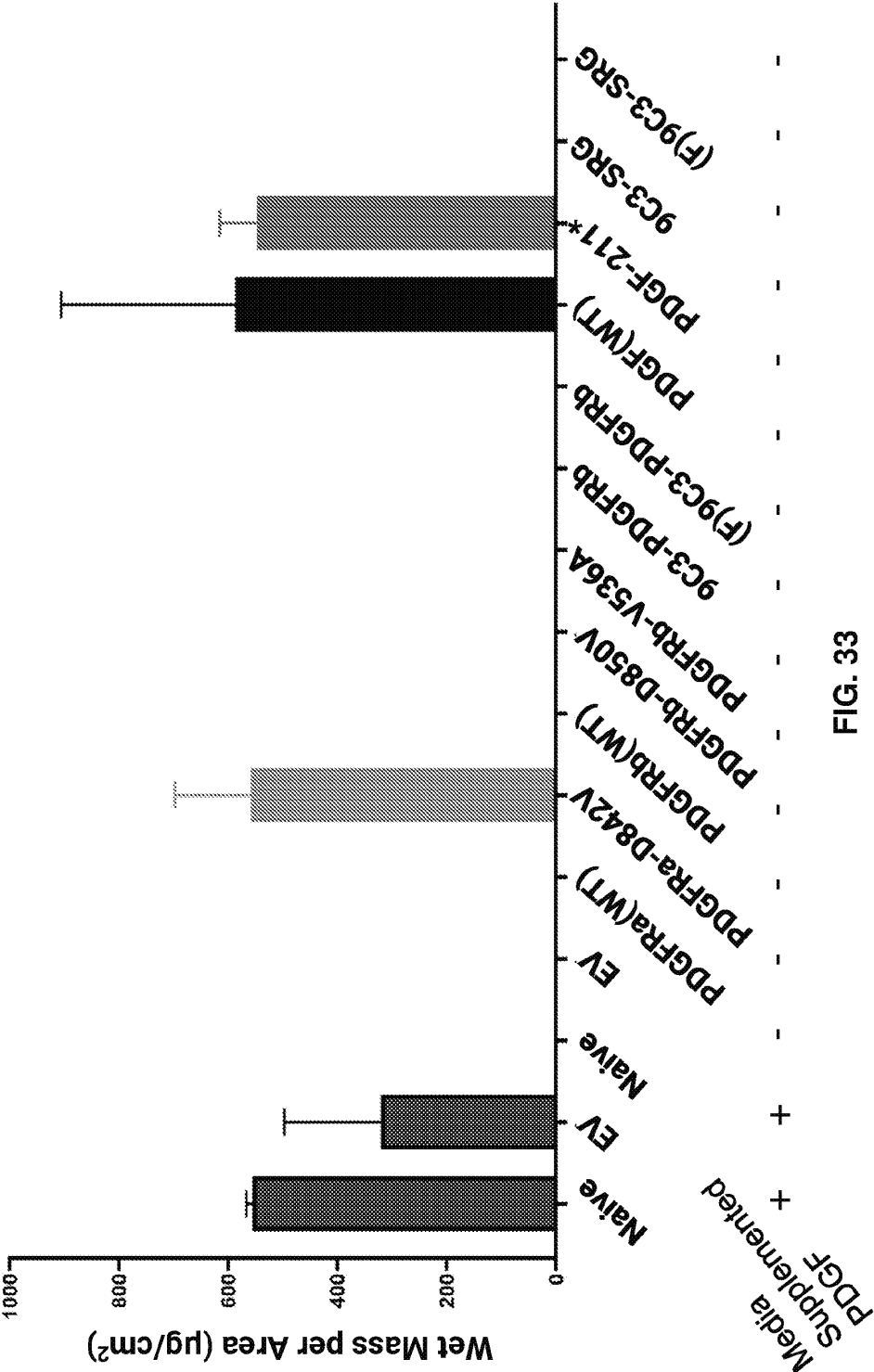


FIG. 33

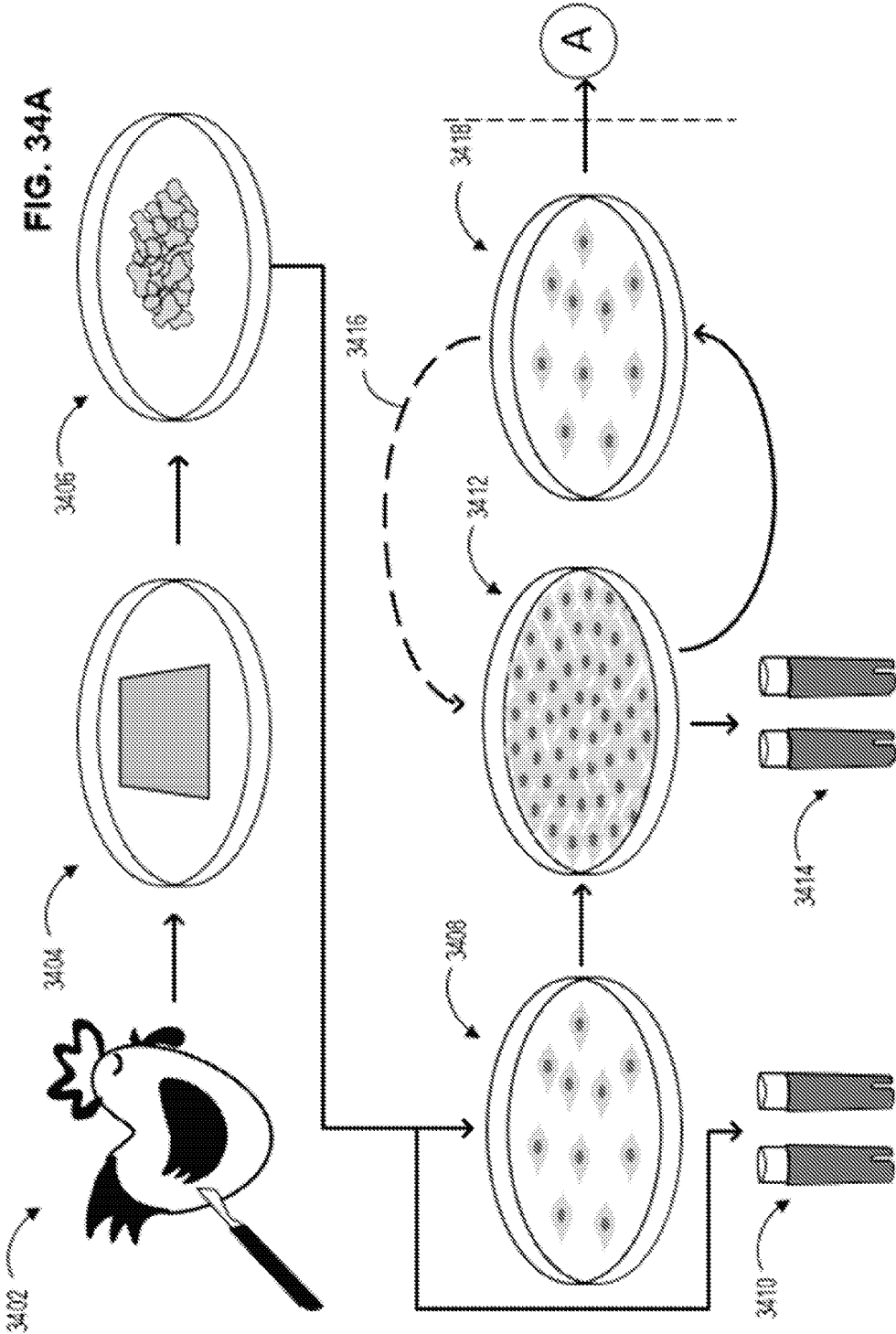
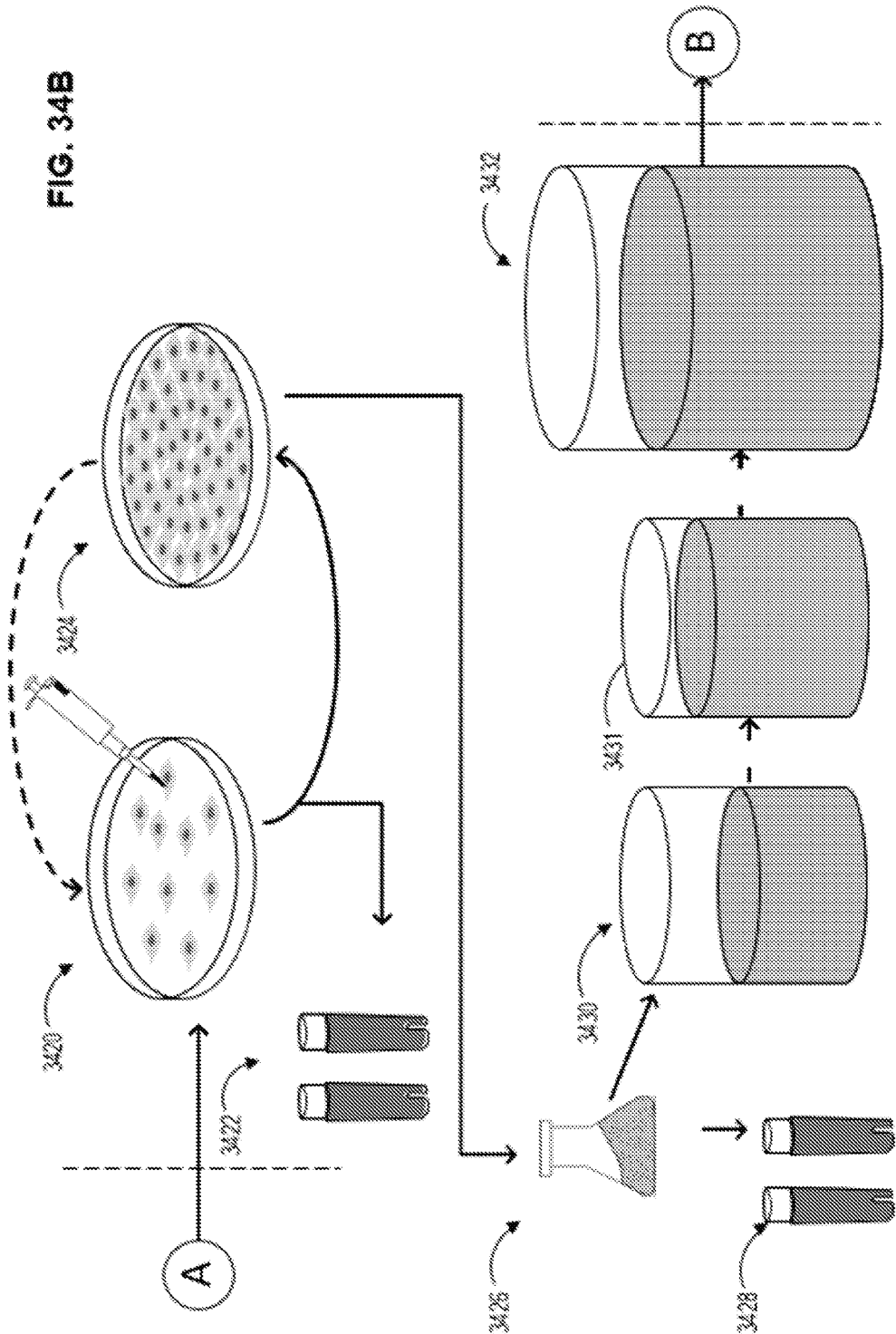


FIG. 34B



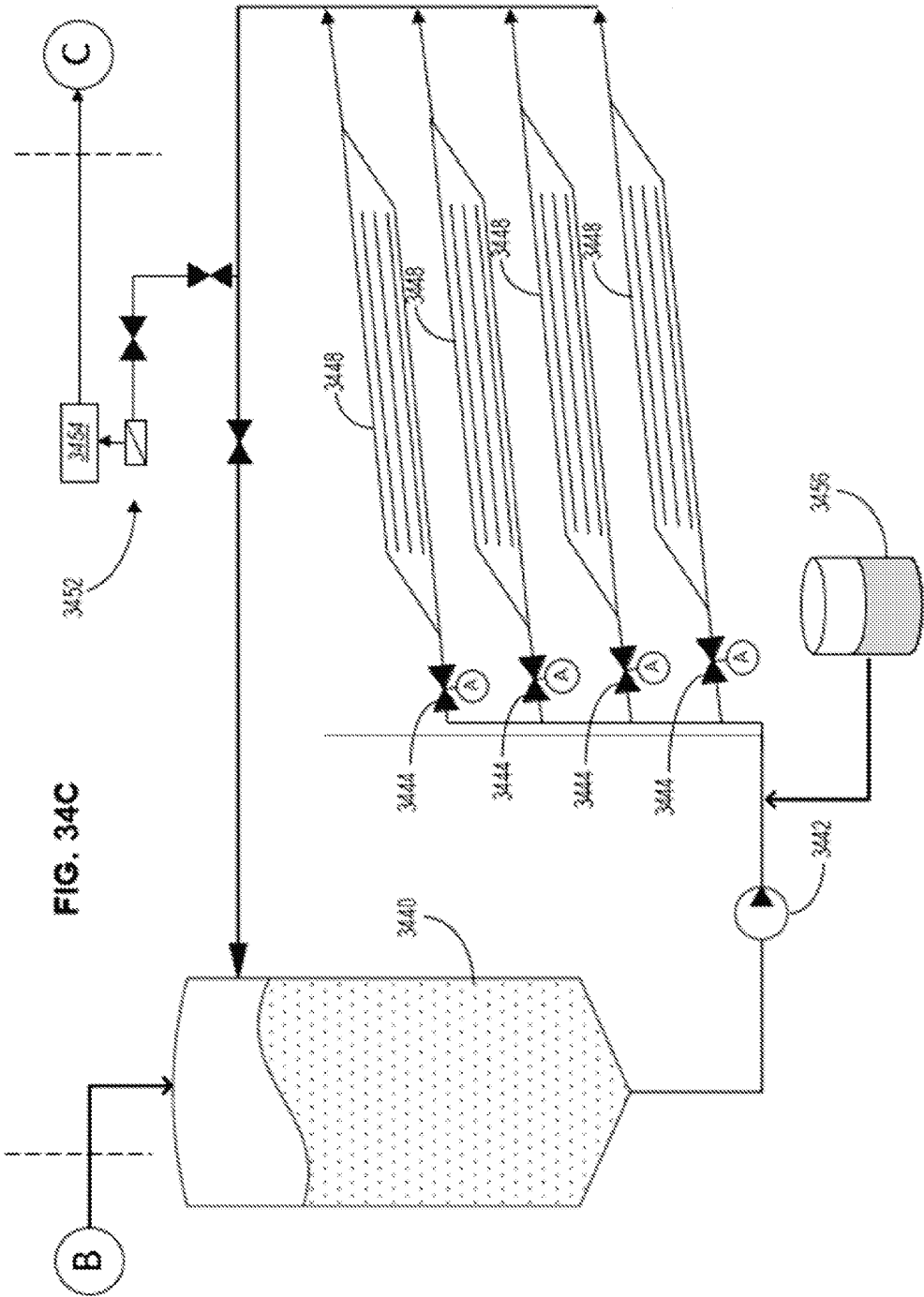


FIG. 34D

